FINANCIAL TIMES

EUROPE'S BUSINESS NEWSPAPER

No. 29,845 Monday February 3 1986 D 8523 B

Papandreou warns US on bases in Greece, Page 2

World news

Snow and floods kill 29 in Europe

The death-toll on both land and sea from wild weather in southern Europe was estimated at 29, and hundreds of communities were isolated by floods and snowdrifts.

At least 12 people died in France, Italy and Austria while Spain reported 17 deaths in mountainous seas.

In France 110,000 homes were without electricity and hundreds of holidaymakers in Alpine ski resorts were stranded by closed roads.

Soviets in Iran

The most senior Soviet delegation to visit Iran since the overthrow of the Shah seven years ago arrived in Tehran, headed by deputy foreign minister Georgy Kornienko.

Spy swap report

The biggest East-West spy swap since the Second World War is planned to take place soon, according to the West German newspaper, Bild. Bild said those set free by Moscow would include dissident Anatoly Scharansky. Page 2

Haiti appears quiet

Port-au-Prince, capital of Haiti, appeared calm but tense after a week of violent demonstrations against the rule of President Jean-Claude "Baby Doc" Duvalier. Page 3

Costa Rica turnout

Costa Rican voters turned out in force for an election which analysts say will be a severe test for President Luis Alberto Monge.

Women go to poll

Voters in the principality of Liechtenstein, for the first time including women, who were granted suffrage in 1984, returned their 15-member parliament, which for the first time includes a woman.

Beirut bombings

Two bombs exploded in east Beirut, wounding several people and trapping others in a building that houses Falangist supporters of President Amin Gemayel.

Tamil rebels killed

Sri Lanka security forces killed 15 Tamil separatists at Kilinochchi in the northern province, where an eight-hour curfew is to be imposed.

Chinese launch

China announced it had launched an experimental communications satellite using its Long March 3 rocket launcher, the second time the launcher had been used.

Libya cash lure

Libya is offering higher salaries in an attempt to lure back American workers recalled to the United States under the Reagan economic boycott.

S. Yemen work plea

South Yemen urged the Soviet Union to send back its advisers and engineers who were working on joint projects before the outbreak of fighting for control last month.

Tea seller shot

Sikh extremists shot dead a tea vendor in Punjab state shortly after police arrested 12 Sikhs for inciting violence.

Fireworks near Pope

Police in New Delhi arrested an unemployed Catholic man who threw a firecracker 25 metres from the Pope as he left a lunchtime mass before 25,000 people. Earlier story, Page 4

French 'bickering'

President François Mitterrand said bickering among France's right-wing party leaders would damage their chances in the parliamentary elections on March 16.

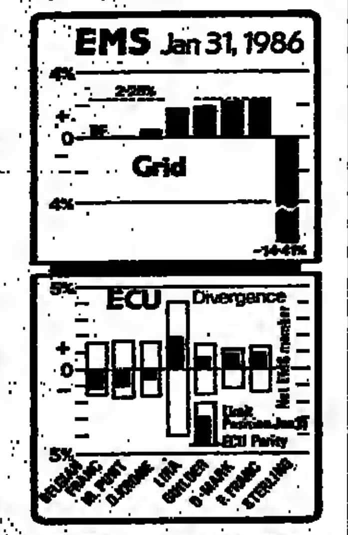
Oman marriage ban

Oman became the first Gulf state to ban marriage between its nationals and foreigners.

Business summary

US steel losses blamed on imports

US STEELMAKERS LTV and National Steel blamed fourth-quarter losses on weak demand and severe price competition particularly from imports. However, LTV narrowed net losses to $75.7m compared with a net loss of $246.7m in the same period a year ago. National Steel posted a $27.2m net loss compared with profits of $1.9m. Page 20



EUROPEAN Monetary System: Dollar weakness pushed the D-Mark still firmer last week and created further strains within the system. The D-Mark rose briefly above its divergence limit at which point central banks are expected to take action. The Bank of France was active both in spot and forward markets in an attempt to avoid too much strain building up before the French general election in March. The Belgian franc remained the weakest member and although still within its divergence limit, it was trading close to its cross-rate floor against the D-Mark. Continued strength of the French franc pushed it above the D-Mark on Friday, replacing the German currency as the strongest currency bound by the narrower 2¼ per cent limit.

The chart shows the two constraints on European Monetary System exchange rates. The upper grid, based on the weakest currency in the system, defines the cross rates from which no currency (except the lira) may move more than 2¼ per cent. The lower chart gives each currency's divergence from its "central rate" against the European Currency Unit (ECU), itself a basket of European currencies.

TOKYO: Nikkei market average rose 19.31 to 13,043.61 on Saturday in fairly active trading.

POLAND devalued the zloty by 15.6 per cent, making it 170 to the dollar, to lift hard currency export earnings. Page 4

CHINA plans to double its intake of foreign capital to over $20bn by 1990 to help fund economic development. Page 6

SUDAN'S central bank announced new exchange controls in an attempt to stop the slide of the Sudanese pound.

WESTLAND'S board is to urge small shareholders this week to back the rescue plan proposed by US helicopter-maker Sikorsky and Fiat of Italy. Page 20

FERMENTA, Swedish biotechnology and pharmaceuticals concern, expects profits to exceed SKr 1bn ($132m) a year when its planned takeover of Sonessons, Leo and Gambro is complete. Page 23

PETROFINA, the international Belgian oil and energy group, had a net income in 1985 of BFr 17bn ($347.6m) or 10.1 per cent more than the previous year. Page 23

ITT, the US-based conglomerate, has made senior appointments in its European telecommunications division aimed at strengthening research, marketing and manufacturing. Page 12

COMANCHE PEAK, North Central Texas nuclear power plant, already five years behind schedule and almost 500 per cent above its original budget is facing fresh problems. Page 23

BRITISH AIRWAYS prospectuses may be sent with bank statements when the airline is privatised later this year. Page 8

Opec faces rift in fight for share of world market

BY DOMINIC LAWSON IN VIENNA

LEADING MEMBERS of the Organisation of Petroleum Exporting Countries (Opec) appear determined to press ahead with a price war, in spite of growing resistance to this policy from within its ranks. This strategy has knocked $10 a barrel from crude prices in the past eight weeks.

In spite of the problems these price falls are causing for countries such as Libya, Iran and Algeria, the five-member committee appointed last year to lead the fight for a bigger Opec share of the stagnant world oil market appears determined to continue its present course.

The committee, comprising the oil ministers of Kuwait, Venezuela, the United Arab Emirates (UAE), Indonesia and Iraq, meets in Vienna today.

Over the past few days Mr Fawzi Shakshouki, the Libyan Oil Minister, and Mr Hussein Kazempour Ardevili, the Iranian Deputy Oil Minister, have visited the conservative Gulf states of Saudi Arabia, the UAE and Kuwait in an attempt to persuade them to abandon the policy of increased market share and to agree to cut Opec's output to below 16m barrels a day (b/d). Algeria has also indicated support for the views of Libya and Iran.

In December Opec voted unanimously to "secure and defend a fair share of the world oil market," and the five member committee was set the task of finding ways to do so.

Opec officials meeting in Vienna last week proposed a market share for Opec of between 17.2m b/d and 18m b/d. Residual demand for Opec oil is this year expected to average 15.5m b/d.

Hard-liners in the Gulf believe that any such specific target is irrelevant and that each Opec country now has the right and duty to sell as much oil as it can regardless of quotas or revenues.

"We will have to forget about revenues for about a year" a Kuwaiti official said yesterday. "Wa are entering a free-for-all which we expect will last about six months. At that point, when the oil price is likely to be between $10 and $15 a barrel, the North Sea producers will change their minds and will cut back production in order to stop the collapse in prices."

The UK has said it will not cut its North Sea output of 2.6m b/d in order to assist Opec in stabilising the oil price. But the official said yesterday: "Only the producers with large unused capacity can end the suffering of other producers and we will not stop until we have a clear undertaking from the UK that it will take a cut in its share of the market."

He claimed that the UK was being singled out for attention because, "other non-Opec producers such as Norway" would follow if the UK showed willingness to cut output.

Producers less able to endure a price war such as Algeria, Iran and Libya want to hold an extraordinary meeting of Opec ministers later this month to decide on a new system of production sharing for Opec. Their oil ministers are believed to be meeting in Tripoli tomorrow in an attempt to set up a united front. But the Gulf states believe that there is no need for such an Opec meeting and that countries should use the market to force non-Opec states into cutting output.

These pressures increased yesterday with the news that Nigeria is to boost its oil output in an attempt to counter the effects of lower prices on government revenues. The Nigerian state oil company, the Nigerian National Petroleum Organisation, is thought to have set a production target of 1.9m to 2m b/d for the first quarter of this year, compared with current production of around 1.5m b/d.

Nigeria to boost output, Page 3

Mexico reduces crude price by $4 a barrel

BY DAVID GARDNER IN MEXICO CITY

MEXICO, the world's fourth largest oil producer and Latin America's second largest foreign debtor, has cut its oil price by an average of $4 a barrel in response to the precipitous fall to spot crude prices of the past two weeks.

Mexico has warned that because of the sharp drop in the oil price it will no longer be able to make interest payments on its foreign debt. Mr Hector Hernandez, Minister of Commerce and Industrial Development, estimated that the price cut could cost his country some $8bn this year alone in lost export revenue. Page 3

The new price cut follows a $1.50 reduction for December and is backdated to the beginning of January. Averaged over a year, it signifies a $2.2bn foreign-exchange loss for Mexico or nearly a fifth of this year's projected interest bill on the country's $97bn foreign debt.

It is the sharpest cut Mexico has made since June 1981, when it attempted unsuccessfully to buck the trend of that year'a oil price shock. On that occasion, the Government dismissed the head of Pemex, the state oil monopoly, after it lowered prices by $4. The price was raised again, then cut back sharply in the face of desertion by Mexico's customers.

Mexico, which exports an average of 1.5m barrels a day, earns more then 70 per cent of its foreign exchange and 45 per cent of its tax revenue from oil sales.

The pricing decision follows a hastily called meeting in the Mexican Caribbean resort of Cancun last Thursday and Friday between Mexico and Venezuela, which exports a similar amount of oil and owes over $35bn abroad in public and private debt.

That meeting, attended by Presidents Miguel de la Madrid of Mexico and Jaime Lusinchi of Venezuela, together with the two countries' finance and energy ministers, announced joint commitment to "a flexible pricing and sales policy" as well as the creation of an oil co-operation committee.

After Mexico's price cut on Friday night, Venezuela followed on Saturday by reducing the price for its heavy crude oil by $3 a barrel effective from January 27. That works out at an average of $1.06 a barrel once the other crudes in Venezuela's export package are taken into account.

At their meeting last week, the two countries also agreed to call an urgent meeting of the Cartagena Group of 11 Latin American debtor countries to review the situation arising out of the price fall.

Mexico has in the past week twice postponed meetings with its main creditor banks in New York, which were to have discussed the country's new finance needs for this year. Mexico had originally been seeking net new finance of $4.8bn – $2.5bn of that from commercial banks.

Last Monday, Mr Jesús Silva Herzog, the Mexican Finance Minister, bluntly told a symposium on foreign debt held in London that "the limit of our responsibility to our creditors is our responsibility to our people."

The average price of Mexican oil in the US market in January, allowing for a mix of 40 per cent sales of light Isthmus crude and 60 per cent of heavy Maya grade, will be $20.38 a barrel.

In Europe, to which it sells nearly a quarter of its oil and where it has been under the greatest pressure from North Sea producers, the average price will fall to $17.75 a barrel. In the Far East, where Japan takes more than 10 per cent, the price drops to an average of $19.35.

Parker Pen executive heads $100m management buy-out

BY CHRISTOPHER PARKES IN LONDON

PARKER PEN, the leading quality writing instrument maker, has been taken over by a management consortium led by Mr Jacques Margry, head of the company's European operations.

The $100m buy-out agreement was signed in Milwaukee on Friday.

Dunhill, Gillette and other writing instrument makers were interested in buying the division, Mr Margry said, but the US management preferred a move into "friendly and capable hands."

The decision to split the company and dispose of the pens division was taken last July after five years of management and tactical changes which failed to restore the group's fortunes in the US market.

Its difficulties were compounded by the effects of the dollar'a strength and the company's heavy dependence on overseas sales. The US market accounted for only 27 per cent of its business and profits on overseas operations turned into losses on translation into dollars.

US profits had also suffered from unsuccessful attempts to break out from Parker's traditional markets at the quality end of the business and into the booming trade in throwaway pens.

The UK has consistently been the company's most profitable market, and profits have been increasing elsewhere in Europe, the Far East and Pacific regions, Mr Margry claimed.

Group sales for the year ending February 1986 are expected to exceed £111m, the company said.

The parent company, founded in the US in 1889 on the strength of George Parker's commitment to "building a better pen," is to be renamed Manpower and it will concentrate on its main business of providing temporary workers from its Milwaukee base.

Mr Margry, 58, who joined the company in 1949, becomes group chief executive. Other board members include executives from Parker's British, European and Far Eastern subsidiaries.

Mr Gerald Dennis, deputy chairman of BAT Industries of the UK becomes non-executive chairman.

Parker's up-market tests, Page 26

Botha makes fresh appeal to moderates

BY ANTHONY ROBINSON IN JOHANNESBURG

PRESIDENT P. W. Botha yesterday followed up last Friday's television address to South Africa's blacks with a two page advertisement in all Sunday newspapers designed to appeal to the "silent majority" over the heads of both black radical and white conservative forces.

The advertisement, clearly prepared by public relations experts, underlined in snappy prose the key messages contained in his speech opening the new parliamentary session. In bold type the advertisement emphasised that "My Government and I are committed to power sharing ... equal opportunity for all, equal treatment and equal justice." It described the proposed National Statutory Council as "not just a forum for talkers but the first step towards institutionalised power sharing where black leaders can now have a voice in central government and, under my chairmanship, make a positive contribution to running the country."

For the first time the advertisement contained a deadline for scrapping the hated pass laws, under which all blacks, but blacks only, have to carry passes permitting or denying them residence in black townships and jobs in white areas, and their replacement by a common identity document for all races.

"I can tell you the pass system will be scrapped by July 1 this year ... in the near future existing influx control measures will be abolished in favour of a system of urbanisation that applies to all South Africans. Our policy is one of encouraging development, not controlling movement."

This week all eyes will be focused on the traditional no-confidence debate tabled by the parliamentary opposition parties. The main aim of the debates this year will be to get the Government to flesh out the details of its legislative programme and highlight the key omissions in the speech, particularly over the future of the Group Areas Acts and other key aspects of apartheid legislation like the 1950 Population Registration Act.

The muted initial response of radical church and black political leaders to President Botha's initiative shows that, so far, the Government has regained part of its lost credibility as an agent of controlled social and political reform.

Bishop Desmond Tutu, who came back from a three-week tour of the US last week proclaiming that apartheid was a monster to be abolished and not reformed, rather lamely complained that there was nothing new in the speech and that black hopes of bold steps had been dashed again.

But the Government, openly contemptuous of those it terms "revolutionaries, communists or foreign agents," is not trying to convert the radicals but to create a multiracial consensus for orderly change.

It is far more interested in gaining the support of moderate blacks and homeland leaders – like Chief Gatsha Buthelezi of Kwazulu – and what it perceives to be the overwhelming majority with middle class aspirations or working class concern for better housing, job security and equal education.

In this context one of the key figures is Chief Buthelezi, titular leader of over 6m Zulus, whose refusal to participate in last year's proposed "non-statutory forum" effectively doomed what he described as "this crumb from the white man's table." His first reaction to President Botha's speech was guardedly positive. "The fact that the President has elected to chair the National Statutory Advisory Council encourages me to believe that the Government has now given the question of black political rights the highest of national priorities.

The Reagan Administration also gave a cautious welcome to Mr Botha's speech, but warned that it would want to see how his latest proposals work out in practice.

In a first reaction, Mr Larry Speakes, the White House spokesman, said: "We've looked at the speech and we've seen some positive signs in it, but we will wait for a specific understanding of how it is to be implemented."

The State Department welcomed Mr Botha's statement that South Africa had "outgrown the outdated concept of apartheid"

President Botha's offer to release Mr Mandela on compassionate grounds in return for the release of two Soviet dissidents, Dr Andrei Sakharov and Mr Anatoly Scharansky as well as Captain Wynand du Toit, a South African officer captured in Angola, received a counter-offer from Angola and stonewalling from Moscow.

The Angolan state-run newsagency Ancop in Luanda refused a Mandela swap but offered instead to release Captain du Toit and the bodies of other soldiers killed in last May's abortive commando raid on the Cabinda oil installations in return for Angolans and a Cuban prisoner held by Pretoria.

But the most important aspect of the exchange offer is that, for the first time, the South African Government has offered to release Mr Mandela without his making a prior commitment to renounce violence.

Editorial comment, Page 18

Merrill strikes a historic bargain in Tokyo

By Carla Rapoport in Tokyo

A FLASH of blond hair and a glimpse of khaki-coloured trousers were just visible amid the sea of navy-blue suited Japanese traders rushing about the Tokyo Stock Exchange on Saturday.

But there was no let-up to the furious hand signalling and vigorous pushing and shoving when, at 9.19am, a young American from Ann Arbor, Michigan, walked to the centre of the floor, placed an order for 2.2m shares of Nippon Steel and wiped his brow.

Bill Vanalstine, 24, made a little bit of history at that moment, representing the first foreign securities house to place an order as a fully fledged member of the 108-year-old Tokyo Stock Exchange. Up in the visitors' gallery, his employers, top executives of the Tokyo branch of Merrill Lynch of the US, jostled with each other for a better view of him and his colleague, Mr Ray Forbes, 28, a Brooklyn native who had the nerve to wear khaki trousers on his first day at the exchange.

Merrill was the first of the six foreign firms granted seats on the exchange to begin trading. The US group even beat the four Japanese securities firms granted seats at the same time as the foreigners. "We've been waiting for this for a long time," sighed Mr Tetsundo Iwakuni, chairman of Merrill Lynch Japan, from his place in the visitors' gallery on Saturday.

Next in line is expected to be Morgan Stanley, but its March 1 debut date has now been delayed, possibly until April. The other foreign firms which officially became members on Saturday are Goldman Sachs of the US, Vickers da Costa, the UK-based affiliate of Citicorp, S.G. Warburg of the UK and Jardine Fleming of Hong Kong.

Foreign firms have until now had to pay 27 per cent of their commission for buying or selling shares to Japanese securities companies which were members of the TSE. Last year alone, Merrill says, it paid out around $1.5m to Japanese securities firms. Its new seat is costing between $6m and $7m, including computer systems, membership fees and new employees. On the assumption that Merrill can increase its volume in Japanese stocks, it expects the seat to have paid for itself within three years.

If the first day is any indication, the firm is off to a good start. During the half-day Saturday session, Merrill traded 16m shares, amounting to 6 per cent of the day's total volume. About 80 per cent of the orders were placed by Japanese clients. Many of these orders, how-

Continued on Page 20

Scandinavian Bank Group

ANNUAL RESULTS

Highlights from audited Consolidated Accounts

	1985 £'000	1984 £'000
Consolidated Assets	3,266,947	3,016,669
Total Deposits	2,742,419	2,527,265
Loans, Advances and Acceptances	2,031,763	1,937,001
Profit before Taxation	14,164	12,131
Shareholders' Funds	114,970	111,497
Proposed Dividend	3,862	3,266
Number of Employees	792	731

The highlights for 1985 are an extract from the Report & Accounts which will be filed with the Registrar of Companies and upon which the auditors have given an unqualified report.

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CONTENTS

OVERSEAS NEWS

Papandreou warns US on bases

BY ANDRIANA IERODIACONOU IN ATHENS

Mr Andreas Papandreou, the Greek Socialist Prime Minister, has delivered a strong warning in advance of a March visit to Athens by Mr George Shultz, the US Secretary of State, that it is too early for Washington to pres for an answer on the contentious issue of the future of the four US military abses in Greece.

The Socialists' official position is that they will close the bases in 1988, the first opportunity to do so under the terms of a five-year defence and economic co-operation agreement (DECA) signed with Washington in 1983. Mr Shultz is expected to probe the Papandreou Government on the possibility of an extension.

If the US is not prepared to wait, Mr Papandreou said in an interview with the Financial Times, its alternative is to renounce the 1983 agreement and risk throwing the bases issue open to new negotiations.

"A five year agreement exists, signed by both sides, which has not even run half its course. If the Americans are making an issue of it after only two years, that is a change of direction on their part," Mr Papandreou said.

Papandreou—strong words

"I have stressed to the Americans that if they don't like this agreement, let them renounce it, and then new negotiations will have to begin. Our intention is to rid the country of foreign bases."

The US wants an early answer to enable it to plan a relocation of the bases if necessary. Turkey and Italy are considered likely alternative sites. The bases provide communications and anchorage support for the Sixth Fleet. They also monitor Soviet activity in the Mediterranean and serve as launching pads for surveillance flights over the Middle East.

The Papandreou Government faces municipal elections next October. Before then any visible compromise with the US on the bases would be politically difficult. The next general election is in 1989, by which time the fate of the bases must be resolved.

Mr Papandreou said Greece might seek a European Community guarantee against a perceived Turkish threat to its borders, but said Athens believes that West Germany, which has close ties with Ankara, would be likely to block such a move.

A bid to secure a guarantee by the North Atlantic Treaty Organisation (Nato) against attack from a fellow Nato member, foundered in the past as a result of a Turkish veto, Mr Papandreou said.

"The EEC could say that the borders of each member country are protected. The phrasing could be very general, without specific reference to Greece. Then the Turkish threat would be over.

"However, we feel the West Germans would reject it. They have the same relationship with Turkey as the US does. They see it as the country which has replaced Iran."

Mr Papandeou indicated that his Government is determined to apply the economic stabilisation measures announced last October, aimed at reducing inflation and the current account and public sector deficits.

Additional steps would be needed if Greece is to enjoy "autonomous economic development, without direction from outside." Mr Papandreous was understood to be referring to the International Monetary Fund.

"The measures are tough, and peope will realise just how tough over time. But measures are not enough. There has to be a new climate, Mr Papandreou said.

"Industrialists must invest to make our products more competitive, and workers must contribute. The Government has to concern itself with the public sector, which represents over 50 per cent of the national product. Productivity is particularly important there and that is our goal."

Mr Papandreou said he foresaw "no dramatic changes in the next few years" in the economy but rather fundamental structural improvements.

Survey, Page 13–16

East-West spy swap forecast

BY PETER BRUCE IN BONN

THE BIGGEST spy swap between the East and West since the end of the Second World War could take place in Berlin soon, according to the West German newspaper, Bild. This will include the release of Mr Anatoli Scharansky, a Soviet dissident accused by Moscow of spying for the US.

It is thought unlikely that the swap relates in any way to the apparent offer two days ago of Mr P. W. Botho, the South African President, to release Mr Nelson Mandela, the leading black nationalist, in return for the freedom of Mr Scharansky and another well-known Russian dissident as well as a captain in the South African army being held by the Angolans.

Bild, which is usually well informed and often used by the Soviets to leak information on dissidents to the West, today quotes "high Soviet sources" saying that Mr Scharansky will be swapped for a number of communist agents being beld in West Germany and the US in the next few days, probably at the Glienicker Bridge, a crossing point normally used only by the military.

Bild says the exchange, the result of "months of negotiation," has been pieced together by Mr Wolfgang Vogel, en East German lawyer and spy-broker.

By labelling Mr Scharansky, who is in jail in the Soviet Union, as a US spy, the Soviets have beeo able to include him in the proposed swap. Efforts by the West to secure the freedom of another important dissident, Mr Andrei Sacharov, at the same exchange appear to have failed, Bild says.

Rumours of a spy exchange have been circulating since the Soviet and US leaders' met in Geneva in November. A modest exchange of captured agents, involving around five people, was carried out at the bridge on December 4 largely, it is believed, to serve as a signal of good faith on both sides of a bigger swap.

Leslie Colitt adds: An end to the stream of Third World asylum seekers entering West Germany through East Berlin's airport appears in sight following protracted negotiations between East Berlin and Bonn.

The East German news agency said at the weekend it would permit citizens from a "number of countries" to enter West Germany through East Germany only if they had West German visas.

Utilising West Germany's liberal asylum law, thousands of asylum seekers from Asia and Africa have poured into West Germany in recent months after landing at East Berlin airport. More than half of them crossed from East Berlin into West Berlin which warned it could no longer cope with the influx.

Bonn denies Kohl charges

The West German Government yesterday labelled as a "campaign of slander" formal charges by the environmentalist Greens Party that Chancellor Helmut Kohl made false statements to a parliamentary committee

FINANCIAL TIMES

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Nigeria to boost production of crude oil

BY PATTI WALDMEIR AND MICHAEL HOLMAN IN LAGOS

NIGERIA intends to boost its crude oil output to maximum levels as soon as possible in an attempt to counter the effect of low oil prices on the country's revenue, according to oil industry officials in Lagos.

The Nigerian National Petroleum Organisation (NNPC) the state oil company, is understood to set a production target for the first quarter of this year at around 1.9m-2m b/d (barrels a day) well above the country's nominal 1.3m b/d quota within the Organisation of Petroleum Exporting Countries (Opec).

Opec ministers meet today in Vienna to review the recent fall in oil prices, and consider whether to restrain output to reduce the market glut.

Nigeria, which is facing severe debt servicing problems over the next few months, is unlikely to agree to reduce its output. Industry officials say production could rise to around 1.6m b/d this month from an average of around 1.2m in January, but they stress that NNPC target of 1.9m-2m b/d for the quarter would be technically impossible to meet due to the very low levels of output earlier this year.

The target represents Nigeria'a technical production capacity on a daily basis, but officials believa that output of no more than 1.5m-1.6m barrels could be sustained over long periods.

Company officials say it would be technically possible to reach an average output of 1.5m barrels for the first quarter, although they are uncertain that buyers can be found for the additional quantities in the market.

Output is running at around 1.3m b/d, up from a low of 1m b/d early in January, prior to the conclusion of a new "incentives" agreements with oil companies producing in the country.

The agreement, which links Government taxes and royalties to the market price of crude rather than the artificially high official price, has been welcomed by most company executives. It allows companies to continue operating profitably even at the current tow spot market prices and involves a commitment that companies will lift an agreed portion of NNPC equity crude.

Nigeria has been moving towards market related prices with third party customers. Late last year NNPC concluded a deal with the Banque Pour le Trevit et le Commerce Internationale under which the bank has extended a $250m (£178m) oil-secured short term loan to Nigeria in return for crude oil on a net-back status (in which the crude price is determined by the eventual price of refined products).

About $1.5bn in crude was to be lifted over 18 months under the deal, but it is understood that the terms of tha agreement may be under renegotiation.

Peru rolls over unpaid foreign debt obligations

By Doreen Gillespie in Lima

THE Peruvian Government has rolled over unpaid obligations on its $14bn (£10bn) foreign debt for a further three months. The move, announced over the weekend, was widely expected since the last rollover in August 1985 expired at the end of January.

Peru's unpaid principal and interest amounts to nearly $2.2bn and this will be rolled over until May 2, according to a decree published in the official daily El Peruano. The decree also unilaterally set interest at 1.7 per cent above Libor for medium- and long-term public debt and at 2.25 per cent above Libor for commercial bank credits.

Peru has not paid any principal on medium- and long-term debt to private banks since March 1983. Since President Alan Garcia took office at the end of last July, the government has been limiting service of its medium- and long-term public sector debt of $11bn to 10 per cent of export earnings.

Haitian President rides storm of protest

BY CANUTE JAMES IN PORT-AU-PRINCE

HAITI'S President-for-life, Mr Jean-Claude Duvalier, appears to have temporarily ridden the storm of anti-Government protests which threatened to unseat him last week

An uneasy calm has settled over Port an Prince, the capital, following the president's imposition of a state of siege on Friday. Armed soldiers and policemen have been patrolling the streets of the city and there has been sustained gunfire in the city over the last two days.

The President still faces widespread opposition outside the capital. Anti-Government protests were staged on Saturday in the cities of Gonaides and Cap Haitien, both hotbeds of opposition to Mr Duvalier's dictatorship.

Protesters continue to call for an end to the 28-year rule of the Duvalier family and appear to favour a take-over by the army. There are reports that several demonstrators have been killed over the past few days. At least 12 people have been killed since the anti-government prolests begao in November following the shooting by the army of three schoolchildren in Gonaides.

In spite of claims that his presidency was "as firm as a monkey's tail" there is continuing uncertainty about Mr Duvalier'a ability to hold on to power. The President has made seven public appearances to convince Haiti's 6m people that he is still in charge, but the credibility of his administration has heen severely dented by the widespread and popular nature of the protests and by his need to resort to the army to ensure the survival of the dictatorship.

Diplomats in Port au Prince say that in spite of the relative calm of the past two days there is evidence of growing confidence within groups which oppose the president that he can be brought down at any time.

"The people of Haiti now know that after nearly three decades they can successfully twist tbe tail of the Duvalicr monkey," said one diplomat. "Unless he maintains martial law indefinitely he will bc under the threat of being overthrown by nothing more than massive demonstrations against his rule."

Mr Duvalier took over the presidency in 1971 following the death of his father Francois "Papa Doc" Duvalier. Some analysts argue that Mr Duvalier has been emboldened by the embarrassing sequence of events on Friday when the Reagao Administration announced that hc had beeo overthrown. The statement was later retracted by the Stato Department in Washington.

China tries to stamp out old family favourites

BY ROBERT THOMSON IN PEKING

THE GOVERNMENT of a society greased by "guanxi" (connections) and where nepotism is a norm, has launched a crackdown against family favouritism that will strike at the very heart of the Chinese character.

The campaign, announced yesterday, complements tough moves against corruption in high places, with arrests of senior officials expected in the next few weeks. It also comes at a time when central government control has been tightened in most areas.

Communism may have changed China in many ways, but it has not removed the importance of guanxi, which helps smooth over problems in everything from buying a bicycle to picking up a bottle of mao tai (a Chinese spirit) on the cheap.

China's paramount leader, Deng Xiaoping, unsighted in public for well over a mooth, has provided a formula for the anti-nepotism campaign, which is aimed particularly at high-ranking government and Communist Party officials: "Action, yes – empty talk, no."

Part of the action includes giving government workers and party members the right to nominate candidates for promotion in order to stop powerful parents plucking their offspring from lousy jobs and elevating them to prestige positions.

The Chinese news agency, Xinhua, said the move "is aimed at making the selection process more democratic, and preventing certain officials from promoting their own friends and relatives, regardless of competence." Candidates are supposed to be nominated by secret ballot, and "senior officials are not allowed to suggest who should be promoted: they must withdraw from a party committee meeting discussing promotion of their children or relatives."

During last year'a spate of student protests, a common complaint was that the children of high officials are chosen for the most interesting and best paid jobs, despite poor exam results, and often win scholarships for study overseas.

To stop the Great Leap Forward through the ranks by well-connected employees, the government has stressed that "normally" officials must be promoted "grade by grade." However, there are special cases: "Those to be promoted more than one grade must have exceptional talent or be in urgent oeed."

One diplomat suggested the Government has no hope of oullifying nepotism, which is and always has been endemic: "It is a time-hooured system of preferential treatment. I don't think this is going to make a great deal of difference."

This drive, and the anticorruption campaign, highlight the problems Deng Xiaoping and his fellow pragmatists face with their reform program, and show they have decided to reassert central control.

The economy is not developing as the reformers had hoped, and too many officials have takeo advantage of the reforms to line their pockets. It is understood that several prominent medio and arts administrators have recently been charged with offences such as procuring pornographic videos and fraud.

In an attempt to improve the image of the party and government, a series of widely-publicised austerity measures have been introduced for high cadres (officials).

Swiss banker attacks Baker debt initiative

BY JONATHAN CARR IN DAVOS

THE US-sponsored Baker Plan to ease the international debt crisis is so far "only an idea" and major issues must be resolved if it is to get off the ground, according to a top Swiss banker.

Mr Franz Lutolf, senior executive of the Swiss Bank Corporation, said the burden between those involved in the scheme—debtor states, international organisations, Western governments and the banks—was not being distributed fairly.

He noted that under the initiative last October of Mr James Baker, the US Treasury Secretary, commercial banks were supposed to pnt up an extra $20bn in credit over the next three years to help 15 particularly needy countries.

But of those 15 only one, the Ivory Coast, was so clearly putting its economic house in order as to qualify for the extra funds, Mr Lutolf said. A few other states including Ecuador and Uruguay were close to doing so.

The banks had already broken their key role of prudence—namely not to lend to borrowers needing credit to make interest payments on their loans—and now were being asked to do more. "Our shareholders keep asking if this is rigbt," Mr Lutolf declared.

He was speaking on the sidelines of tha Davos Symposium, an international business and economic conference, at which the inter-related issues of debt, falling commodity prices and the Baker Plan have loomed large.

Mr Lutolf underlined that he was not saying "no" to the Baker initiative. Indeed the Swiss banks, along with those in many other Western countries, have already given their assent "in principle" to the scheme.

But he underlined with striking frankness the conditions he felt had to be fulfilled. They included:

- Western governments had to pledge greater backing for the plan, for example by offering more export risk guarantees. So far there had been little sign they would do this and early talks were needed between them and the banks at national level.
- The extra funds could only be made available on a case-by-case basis. Those states receiving them should show they were following sound economic policies, were tackling the problem of capital flight and laying a better basis for foreign direct investment.

Mr Lutolf stressed that there must be no repeat of a situation like that of the "Mexican emergency" a few years ago, when the banks felt forced to put money quickly into a common pool to avert an international financial crisis.

"You cannot continue with that sort of action indefinitely," Mr Lutolf said. "We must face the problem properly and there will be not better time to do it than now."

Argentina backs call for meeting on debt crisis

BY JIMMY BURNS IN BUENOS AIRES

SUPPORT IS growing among Latin American countries for fresh co-ordinated action to stave off a new payments crisis threatened by falling oil prices.

I na statement released by the Argentine Foreign Ministry on Saturday, President Raul Alfonsin issued his support for an urgent meeting of the Cartagena group of Latin American debtor nations, as urged by Mexican President Miguel de la Madrid and his Venezuelan counterpart, Mr Jaime Lusinchi, at the end of their two-day summit last week.

The Argentine statement is understood to have been issued after close consultation between Mr Alfonsin and President Jose Sarney of Brazil in the latest evidence of a hitherto unsuspected degree of co-ordination among the region's four major debtors—publicly confirmed for the first time at the meeting of the Cartagena group in Montevideo in December.

At that meeting the group presented a bold package of alternative proposals to the Baker Plan, which was classified as a step in the right direction but insufficient to solve the region's debt problems.

The proposals, which included a call for additional funds from commercial banks and an end to conditionality on multilateral lending, have so far failed to stimulate a firm response from industrialised nations.

Some observers in Buenos Aires believe that in the light of the cash problems provoked by tha fall in oil prices and, in the case of Argentina, grain prices, major debtors may be moving towards more radical proposals.

Mr Alfonsin's weekend statement was delivered in a measured and undramatic tone with little suggestion of a threat.

However, it coincides with official Argentine confirmation that the counrty's negotiations with the International Monetary Fund on reviving a temporary suspended standby agreement remain deadlocked. In a front-page interview published yesterday by tha pro-Government La Nacion, one of the country's chief debt negotiators, Mr Jose Luis Machinea, said the two sides had failed to agree on revised fiscal and balance of payments targets for the first quarter of 1986.

South Yemen to stand by foreign contracts

BY TONY WALKER IN ADEN

SOUTH YEMEN'S interim President, Mr Haider Abuhaker al Attas, says his country will insist that foreign companies fulfil the terms of their contracts.

Mr al Attas, who was installed as temporary head of state after former President Ali Nasser Mohammad was ousted in a bloody conflict between rival factions in this pro-Soviet state, said South Yemen would stand by all its egreements with foreign contractors.

"We expect that those forelgu companies will be comlng back once stability is restored in order to implement and carry out projects which we agreed," he said.

"We will respect all of the contracts we signed with foreign companies. We bope and expect those foreign companies will do the same."

A number of Britisb companies are involved in infrastructure projects in South Yemen, some of which are funded by the World Bank.

Several hundred British nationals were trapped by the fierce fighting that broke out on January 13 after President Mohammad launched a preemptive coup attempt against his rivals.

Among companies Involved is Bovis Engineering. Sonth Yemen has in recent years entered into a number of agreements to improve water supply and sewage facilities in its major towns. British companies bave won a lion's ahare of these contracts.

Mr al Attas, who as Prime Minister was visiting New Delhi when the fighting broke out, is appealing for assistance in South Yemen's reconstruction efforts.

"We really need help, especially from international and regional organisation," he said.

Pro-Marxist South Yemen is mainly reliant on the East Bloc, particularly the Soviet Union, for aid. It receives relatively little assistance from the West.

Moscow has already begun sending humanitarian aid, iocluding foodstuffs and medical supplies.

A large number of Soviet technical advisers and their families were evacuated from South Yemen to escape the heavy fighting that caused widespread destruction

Libya offers higher wages to keep Americans

LIBYA is offering higher salaries to lure back Americans ordered out of the country by tbe US Government, diplomatic sources said yesterday, Reuter reports from Tripoli.

US oilmen were alreedy earning up to $100,000 a year before Presideot Reagan imposed an economic boycott on Libya, accusing Colonel Muammar Gaddafi of sponsoring terrorism. The sources said Libyen companies were holding jobs open for American employees who felt obliged to leave the country and were trying to tempt tbem back with more money.

Western diplomats said there was no mass exodus by Presideot Reagan's deadline of February 1 and it was not known how many of the estimated 1,000 to 1,500 Americans in Libya decided to stay oo.

A US Senate Department spokesman said on Saturday at least half the Americans bad left.

President Reagan ordered all Americans to leave Libya when he announced economic sanctions on January 7. He also hanned Americans from travelling to Libya or doing business with it.

John Elliott reports on the Pontiff's controversial visit to India

Pope aims to bridge religious gap

AN AFTERNOON of Chriatian singing and dancing, with speeches from leading Hindu, Mostem and Sikh personalities yesterday marked a relatively quiet start to a 10-day tour of India by Pope John Paul II.

The event, watcbed by about 20,000 people, reflected the theme of unity with wbich the Pope is trying to bridge the gap between India's 12m Catholics and 650m Hindus.

Shortly after the Pope arrived in Delhi on Saturday more than 400 demonstrators were arrested for a few hours when they tried to block a road along his route. A 12ft-hlgh photograph of the Pontiff was daubed with paint near Delhi's Catholic catbedral.

His effigy was burned by a group led by Mr Gopal Godse, a brother of the man wbo in 1948 assassinated Mahatma Gandhi, the Indian independence leader.

The group, the Akhil Bharatyia Hindu Mabasahba, draws a parallel between Mahatma Gandhi, wbo they condem for allowing Moslems to partition Pakistan into a separate country in 1947, and a separatist threat they believe is caused in parts of India by Catholic and other Christian conversions.

One of the most emotional moments of the weekend came wben the Pope knelt for almost five minutes at the cremation memorial of Mahatma Gandbi, at Raj Gbat beneatb the walls of India's old Moghul city, resting one *hand* on the black marble of the shrine.

New Delhi poster attacking the Pope's visit

The Pope described Gandhi as "not just an Indian leader hut a bero of humanity" and a "voice of harmony striving for peace" whose light was shining still. A Vetican alde sald he had never beard the Pope "use such words" about anyone before.

The visit bas ao far aroused little puhlic interest. Abont 20 per cent of Delhi's 400,000 catholics have attended two masses ond yesterday afternen's festival, all beld in Delhi's indoor Indlra Gandhi stadium.

The tour which includes Ranchi in Bihar, one of India's poorest states, tight security precautions have been taken other than those held at yesterday's demonstration. A few dozen extremists were errested.

Yesterday security was reinforced round the Indira Gandhi stadlum after a Catholic from the southern state of Kerala, who had come to Delhi for mental treatment, threw a firecracker from o balcony as the Pope was leaving.

The Pope met the Dalai Lama, exiled leader of Tibetan Buddhists, at the Vatican embassy yesterday morning. Dressed in white, tbe Pope embraced the red robed Dalai Lama.

Shortly after arriving on Saturday and kissing the soil at Delhi airport, the Pope met for 30 minutes with Mr Rajiv Gandhi, premier, and his wife Sonia, an Italian-born Catholic.

Mr Gandhi, whose father was o Parsee and mother and grandfather Hindus, has said that he, his wife and children are not a practising religious fomily.

New Delhi cancels Jayewardene peace talks

By Mervyn de Silva in Colombo

INDIA HAS cancelled o visit to Colombo by the Indian Foreign Secretary, who was due to hold crucial talks with President Jayewardene on the island's ethnic conflict.

The move is seen in Sri Lanka as a sign of the growing impatience of Prime Minister Rajiv Gandhi, with the lack of progress towards a settlement.

Mr Gandhi has been attempting to mediate between Tamil separatists and the Sri Lankan government.

Mr Romesh Bhandari was expected in Colombo this mornings for two days of talks with government leaders on the latest proposals on regional autonomy submitted to Mr Gandhi by TULF, the main Tamil political party.

Over the weekend Mr Bhandart held talks with Madras-based Sri Lankan Tamil leaders from TULF, and ENLF, the umbrella Tamil guerrilla organisation on Sri Lanka's response to the proposals.

The Tamil proposals were made known in December, but Sri Lanka's first written response came in a letter to Mr Gandhi from President Jayewardene on Thursday.

"The last-minute cancellation of Mr Bhandari's visit indicates a hardening of the Indian stance. The question is whether Mr Gandhi will pull out of the peace progress altogether. That would make things even more hopeless than they now are," a Western ambassador.

Pravda attacks former official under Brezhnev

By Patrick Cockburn in Moscow

THE Seviet Communist Party daily Pravda has launched the heaviest attack yet made on a senior Soviet official who flourished during President Brezhnev's 18-year rule.

The criticism is of Mr Sharaf Rashidov, who died in 1983 after 24 years as leader of Uzbekistan, with a population of 18m the third-largest of the the Soviet republics. Pravda blames him for shielding "serious state criminals" and allowing embezzlement, bribery and the *falsification* of statistics.

There was an extensive purge of the Communist Party of Uzbekistan in 1984. Immediately after Mr Rashidov's death, but there have been continued complaints in the press that this was not thorough enough.

Many of those removed have re-emerged in other jobs. Pravda said yesterday that 300 party officials have been fired, many of whom had obtained their jobs through family connections.

The attack on Mr Rashidov is the first time that such a senior political figure has been accused of criminal offences since the present purge of the party and state opparatus was started by Preident Yuri Andropov which year the inflation rate ran at 15 per cent.

The effect of the devaluation on managerial decisions, will be limited as some two-thirds of Polish sales *abroad are centrally planned*, and controlled.

US postpones plans to sell arms to Jordan

TH EREAGAN Administration has indefinitely postponed plans to sell Jordan up to $1.9bn (£1.35bn) worth of advanced military equipment rather than sea the controversial arms deal voted down by Congress, writes Reginald Dale in Washington.

Tho move was seen as a considerable disappointment for Mr George Shultz, the Secretary of State, who had hoped the deal would encourage King Hussein in his tortuous approach to the Middle East peace negotiating table.

Under earlier arrangements on Capitol Hill, the deal would have gone through on March 1 unless Congress voted to block it. By last week, however, it was clear that Congressional opposition was overwhelming and the two houses were threatening to reject the deal this week.

Cobgress has stipulated that the deal cannot be approved until King Hussein has entered "direct and meaningful" negotiations with Israel. Last week the State Department was unable to persuade Congressional leaders that such a breakthrough was likely.

Poland devalues zloty by 15.6%

By Christopher Bobinski in Warsaw

Poland devalued the zloty at the weekend by 15.6 per cent against the US dollar and other Western currencies in a bid to boost hard currency export earnings which are crucial to servicing repayment of the country's $29.2bn (£21bn) debt.

The zloty—now standing at 170 to the dollar, was last devalned in June. Its value has fallen by 23 per cent since the beginning of 1985, during

Women shot in S. Africa riots

SOUTH AFRICAN police shot a black woman in Mohlakeng township in a mining district 25 miles west of Jahannesburg, where tensions have been high since the beginning of tha year. More than 12 people, including two white policemen, have died in recent unrest in the West Rand district, AP reports from Johannesburg.

On Saturday, police arrested two black nuns, one of them a prominent anti-apartheid campaigner, after a funeral for a balck man killed in rioting in Munsieville township in the West Rand.

In Mamelódi, outside Pretoria, police shot another black woman in a crowd staning a riot patrol, police headquarters said. A black man also was fatally wounded in o similar clash in Brayton, in eastern transvaal province,

Sudan central bank moves to stem currency slide

BY JOHN MURRAY BROWN IN KHARTOUM

SUDAN'S central bank has announced new exchange control regulations in an effort to stem the slide of the Sudanese pound on the free market.

The pound, which is officially valued at 2.5 to the dollar, was last week trading at five to the dollar on the free market.

Pressure on the pound eased slightly following the announcement.

Hitherto the free market has been the main source of hard currency for the private sector.

From yesterday, all foreign curreocy is to he pooled with the central bank and import licences will be determined by a committee of government and commercial bank officiala.

This will limit the number of private sector importers and make more funds available for the public sector.

One commercial banker said he expected overseas suppliers to insist on 100 per cent cash collateral from any prospective Sudanese importer.

In the next few weeks commercial banks are likely to adjust the commercial rate of the pound, which stands at 3.3 to the dollar for non-government imports, in an ottempt to attract remittances from Sudanese working abroad, which currently come through the free market.

Remittances last year totalled more than $500m. Given a more realistic rata for the pound one Western official said remittances could exceed $1bn.

The announcement comes at a time when Sudan's transitional government is bidding to win a reprieve from the threat of suspension of Sudan's membership of the International Monetary Fund (IMF).

WORLD TRADE NEWS

Peking plans to double intake of foreign capital

BY JONATHAN CARR IN BONN

CHINA PLANS to double its intake of foreign capital to more than $20bn (£14bn) in the current five year plan period (1986-1990) to help finance its economic development, according to Mr Zhu Wong-ji, Vice Chairman of China's State Economic Commission.

In an address to senior executives in Peking, Mr Zhu said that in the last five years China had used just over $10bn of foreign capital, most of it long-term low interest loans from the World Bank and similar agencies.

In the next five years China would boost its use of foreign capital, including the use of commercial loans. He said it was impossible to give an exact figure, but the total intake would "at least double."

Foreign loans obtained on preferential terms would be used mainly to finance infrastructure projects in energy, transport and communications. Commercial loans could above all be used to boost the performance of companies which were already doing well and could earn foreign currency.

Mr Zhu was speaking at the annual symposium of EMF, an independent Geneva-based organisation, attended by more than 600 senior politicians and businessmen from over 50 countries. The Chinese traditionally use this forum to review their economic performance and outlook.

By 1990 China planned to increase the total volume of its exports and imports by up to 50 per cent over the 1985 level, with special emphasis going to the acquisition of advanced technology, Mr Zhu said. China needed high technology imports to improve its quality control and experimental facilities, as well as to modernise sectors including machine building, electronics, textiles, packaging, chemicals and building materials.

He also stressed that China wanted to strengthen co-operation with foreign small and medium size businesses, not just with the big companies. This was a key aim of his trip to West Germany, which would follow immediately on his visit to Davos.

Mr Zhu agreed there had been some difficulties in negotiating deals under China's increasingly de-centralised economic structure. But China had only been open to the world for a few years, and much still needed doing to reform the economic—and above all the management—system. For all the difficulties "unprecedented opportunities" awaited foreign businessmen under the new five-year plan, he said.

Exchange shortage fears grow

By Robert Thomson in Peking

CHINESE officials now admit the country's shortage of foreign exchange will not be overcome in the near future, in spite of statements late last year that a slump in foreign exchange reserves was under control.

A senior official of the state administration of exchange control was reported in the China Daily as saying China's "limited" amounts of foreign exchange will only be spent on projects that can earn foreign exchange.

The "key" to China's seventh five-year economic plan, beginning this year, is, according to the Government, to earn enough foreign exchange to bankroll the importation of needed technology and expertise.

Yet the Government has had great difficulty in increasing export earnings, and diplomats believe there is still serious concern about the level of foreign exchange reserves, a concern that will strictly limit foreign contract signings this year.

These reserves fell by $5bn from $15.3bn in the six months from October 1984, and by the end of June last year were down to $10.35bn. That figure was delayed for several months, and a senior People's Bank of China official claimed the hold-up was because of problems in the printing of a government financed magazine.

Diplomats were very surprised when the third quarter figure showed an increase to $12.59bn, and Mr Chen Muhua, head of the People's Bank, said: "The downward trend of foreign exchange reserves has been basically brought under control." The end of 1985 figure has yet to be released, and diplomats are watching for any seemingly inexplicable fluctuations.

CoCom speeds up China sales

BY DAVID BUCHAN

BRITAIN has announced a new system that will make the licensing of certain high-technology exports to China simpler and speedier than to other Communist countries. Similar announcements are expected to be made by Britain's Western allies very soon.

Details of the new procedures were published by the UK Department of Trade and Industry (DTI) on Friday. It allows Britain and its 15 partner countries in the Paris-based Co-ordinating Committee (CoCom), which vets militarily sensitive technology sales to Communist countries, to grant licences on a wider range of exports to China at their own national discretion.

Henceforth, licences to sell the Chinese certain types of machine tools, semi-conductor and optical fibre equipment, industrial robots, computers, telephone exchanges, and other goods will not have to get prior unanimous approval of CoCom.

The announcement is the culmination of moves by the West in recent years to favour China over the Soviet bloc in the administration of Cocom controls. But in practice, Cocom has made far more "exceptions" to its controls in favour of a China, considered increasingly friendly to the West.

Processing these "exceptions" has created a long backlog in Cocom, where the number of licence applications rose from less than 2,000 in 1983 to some 5,000 last year, most of them concerning sales to China. Many of these applications can now be dealt with by national governments, without reference to the Paris organisation.

The DTI hopes that licensing will now be "significantly" speeded up, and that this will help boost further British exports to China. These increased to £367m in the first 11 months of last year compared to £295m.

The degree of Western competition which Britain faces in the Chinese market will not change, however, because all CoCom members — Nato countries plus Japan — are expected to announce and publish a similar relaxation in their licensing procedures for China by the middle of this month.

GM and Man in joint truck venture

BY JOHN DAVIES IN FRANKFURT

THE WEST GERMAN truck maker Man and General Motors of the US are to work together on a plan to build military trucks aimed at the needs of the US armed forces.

The co-operation agreement is one of a number of steps taken by GM to widen its involvement in Europe. It comes more than a year after futile discussions about a close tie-up between GM and Man in order to help GM's Bedford subsidiary in the UK.

The two groups will collaborate in drawing up a joint plan for manufacturing and marketing heavy duty trucks for use on both rough terrain and roadways and designed to meet US military requirements.

Man said its "technical concept," would be the basis of the co-operation project and each group would contribute what it was best able to do.

The companies are interested in securing orders to supply the armed forces in the US and American units based in Europe. Man said it was too early to indicate where or when the trucks might be built.

GM will be involved through its military vehicles operation (MVO) unit based in Warren, Michigan. The MVO unit, formed in mid-1984, is active in engine technology and electronics as well as development of complete vehicles.

Man was general contractor for the development and manufacture of a new generation of military vehicles for the West German Bundeswehr. It has delivered more than 10,000 of them in the last few years. The US Army has also taken delivery of more than 300 Man vehicles of this type since 1984 for use in the US and Europe.

Man has been staging a recovery after running into problems a few years ago as a result of the setback in world truck markets. It has cut its workforce, streamlined production and lowered its break-even point in terms of output.

The agreement with GM comes a year after Man agreed to co-operate with Eaton of the US in developing and making axles for heavy trucks and buses.

GM, which sees potential in the heavy truck business, is believed to be considering buying Leyland Vehicles, the truck and bus operation of the state-owned BL group in the UK.

Yeutter warns of EEC trade row

A super-strong fibre used for making bullet-proof vests could become a contentious trade issue between the US and the European Community along with steel and spaghetti, a official said yesterday, Reuter reports from the Hague.

Mr Clayton Yeutter US Trade Representative said Washington would fight back if the Dutch government persisted in backing the chemical company Akzo in a battle with its US rival Dupont de Nemours Co. Both claim patent rights over the process for manufacturing an aramide fibre which is stronger than steel and much lighter.

Textile imports up

The American Textila Manufacturers Instituta (Atmi) says textile and apparel imports are entering the US market at a record breaking rate that totalled $21.3bn in 1985, AP-DJ reports from Washington.

Seat tops car sales

Spain's state-owned automobile company, Seat, which is due to be acquired by Volkswagen, was the country's top car manufacturer in 1985—a year when the Spanish car industry as a whole grew by 4.5 per cent to establish a new production record of 1.2m units, Tom Burns reports from Madrid.

Sharp decline in Gulf tanker rates

By Andrew Fisher, Shipping Correspondent

IT WAS a dismal week for the shipping industry, with tanker rates falling sharply in the Gulf, grain rates continuing their slide, and one of Hong Kong's best known shipowners turning to the banks for rescue.

Unsettled oil markets, as the price debate continued, led to a virtual drying up of inquiry for VLCCs (very large crude carriers) in the Gulf. E. A. Gibson Shipbrokers of London said around 13 VLCCs totalling 3.5m deadweight tonnes were sitting there waiting for cargoes.

It said a further 20 vessels of 5m dwt were expected to arrive in February, a level not seen for some time. "With such a build-up of available tonnage, owners are under extreme pressure."

Rate levels as low as Worldscale 21 have been accepted for voyages to Taiwan, with little prospect of any immediate rise in rates from the Gulf in the market's present state.

More business was transacted from the North Sea, where output has been maintained. Oil companies and traders have fixed vessels from 65,000 dwt to the US up to VLCCs for Japan, with the 80,000 dwt size preferred for voyages around the European coasts.

Dry cargo shipowners had "a thoroughly demoralising week," according to Denholm Coates, the London shipbroker. A continuing surplus of tonnage is apparent in all areas.

The grain rate from the US Gulf to Continental Europe fell sharply from $8 to $6.75 a ton, while the rate to Japan was down from $13.50 to $12. Falling oil prices should benefit the industry through lowering fuel costs, but the effects have yet to show through fully.

In Hong Kong, the problems of Wah Kwong, the prominent bulk carrier operator, came as a further reminder that the shipping sector remains firmly sunk in depression. Earlier collapses of companies around the world, with which Wah Kwong had trading links, finally proved too much for it to bear.

World Economic Indicators

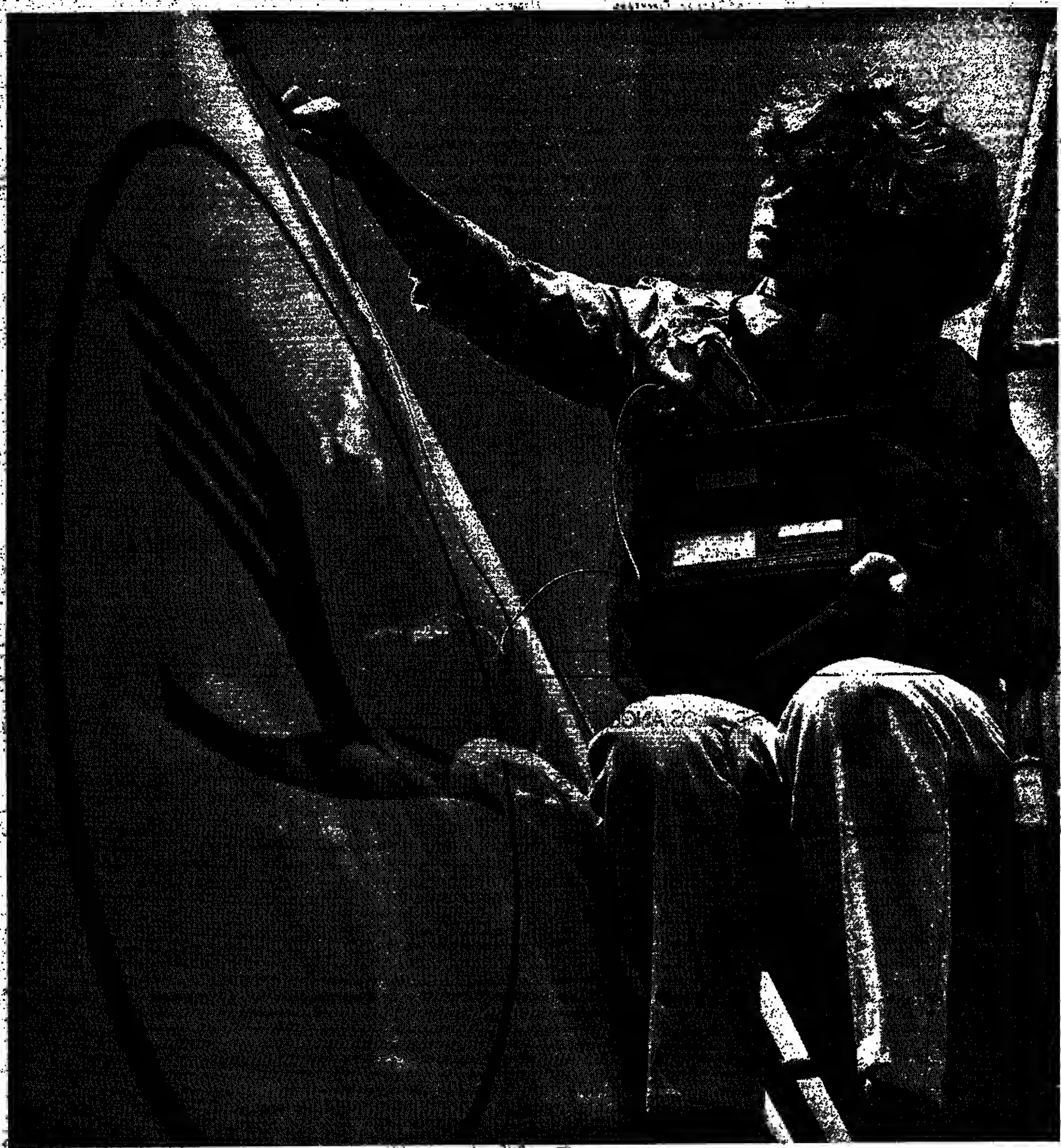
FOREIGN EXCHANGE RESERVES
(US$m)

	Nov. 85	Oct. 85	Sept. 85	Nov. 84
U.S.	12,553	11,798	8,671	4,763
UK	10,288	10,399	8,186	6,812
W. Germany	39,002	35,741	37,556	35,477
Japan	21,994	21,957	23,106	22,021
Italy	15,800	17,027	18,410	19,974
Belgium	3,909	3,614	3,800	3,631
Netherlands	8,893	8,583	8,933	8,004
	Oct. 85	Sept. 85	Aug. 85	Oct. 84
France	21,081	21,000	20,536	20,403

Source: IMF

هكذا عن الرجل

If you think we're picky, hard-to-please perfectionists – you're right.



Thatcher faces revolt over EEC budget

BY JOHN HUNT

MRS MARGARET THATCHER, the Prime Minister, faces a difficult time at Westminster this week with continued pressure over the Westland affair and the row over whether officials from No 10, Downing Street, should appear before the House of Commons defence committee to answer questions.

In addition, she faces a rebellion of Tory backbenchers tonight over the decision to approve an £18m payment towards the EEC budget.

Anti-EEC Tories are angry that this first quarter's payment is being made, even though the Government and other member states have said that the budget is illegal. About 30 of them are expected to abstain or vote against the Government.

There are continued rumblings on the Conservative backbenches against Mrs Thatcher's style of leadership.

Sir Anthony Meyer, a Conservative MP for Wales, yesterday renewed his call for Mrs Thatcher to put her popularity to the test by seeking re-election as party leader. He thought this should be before the autumn, which would be the normal time for an election under the party constitution.

The Prime Minister also came under attack from Mr Robert Rhodes James, Tory MP for Cambridge. He said that her handling of the Westland affair was regarded by many Conservative MPs and party supporters with "a mixture of bewilderment and anger."

He called Westland a lamentable episode which demonstrated that in politics, as in other areas of life, honesty was the best policy.

Neither of these backbenchers, however, represents a broad spectrum of opinion in the party. Sir Anthony admitted that other Tory MPs be had spoken to did not agree with him.

Nevertheless, with rising unemployment and falling oil prices, the Prime Minister is going through a difficult period.

Conservatives will be keeping a close watch on the Young Conservatives' annual conference next weekend. Mr Norman Tebbit, the party chairman, will use the occasion to make a rallying call to the party.

Mr Michael Heseltine, who resigned as Defence Secretary over Westland, will also be there. He is expeced to make a wide-ranging policy speech.

CBI presses for tax changes

BY JOHN LLOYD, INDUSTRIAL EDITOR

THE Confederation of British Industry (CBI) will this week propose to the Government that it change the tax laws to encourage the growth of the self-employed sector which now accounts for one in nine of the working population and growing.

In a confidential memorandum on "factors affecting the creation of jobs" to be presented to the National Economic Development Council oo Wednesday, the CBI says thet much greater sub-contracting of work to individuals is now taking place throughout British industry – the largest canse of the growth in self-employment.

It says, "subject to a framework to prevent obvious abuse, the Government might consider changing the onus of proof of self-employment for taxation and benefit purposes from the individual to the Inland Revenue, so that those who wished to be self-employed would be so entitled unless there were good reasons otherwise."

The CBI document, in a wide-ranging analysis of present labour market trends, strongly backs moves towards greater labour market flexibility and says that regulations governing the work place "must in the first place be designed to represent the minimum burden consistent with achieving their necessary objectives. They must subsequently be subject to a review which is both regular and systematic; and when they are no longer relevant or useful they must be scrapped."

But it stresses that the greatest handicap for employers is shortage of skilled workers. Drawing on a Gallup survey of November last year, the memorandum says that "an inadequate supply of candidates with the right skills and experience was a far more widespread impediment to recruitment than the various obligations placed on employers."

The Gallup survey also shows that:

● Over the next five years 57 per cent of companies expect to reduce demarcation and increase "multi-skilling" and job flexibility: this move is the more likely the larger the company.

● Nearly 20 per cent of companies expect to increase their proportion of part time workers with a higher proportion among large and service companies.

● Some 25 per cent of companies expect to make more use of temporary workers.

● Some 36 per cent expect to increase their proportion of self-contracted work.

● Some 35 per cent of all companies wish to increase shift and rota working, the proportion rising to 39 per cent in the manufacturing sector and to 41 per cent in the largest companies.

Low paid said to have little protection

BY DAVID THOMAS, LABOUR STAFF

THE UK's protection for the low paid is less comprehensive than most other countries in the European Community.

However, the UK Government is similar to some other European governments in wishing to weaken statutory provisions for the low paid.

These are some of the main findings of a survey of minimum pay in the 12 countries of the European Community by Industrial Relations Services (IRS), an independent pay research group.

A full statutory minimum wage exists in five EEC countries, France, The Netherlands, Spain, Portugal and Luxembourg, IRS found.

Belgium and Greece have minimum wages laid down, not by law, but by national collective agreements in those sectors where there is no industry-wide accord.

West Germany, Denmark and Italy set minimum rates of pay across all sectors of the economy through industry-level collective agreements.

The UK and the Republic of Ireland stand alone, according to IRS, in laying down minimum wages only for certain sectors and industries where unions and collective bargaining are traditionally weak. In the UK, this is done through wages councils.

All the five EEC countries with statutory minimum wages also include young workers in the coverage, according to IRS. In Britain, in contrast, the Wages Bill published last week will remove 500,000 under-21s from the scope of the wages councils.

In the EEC, statutory minimum wages lay down a tapered percentage of the adult rate from school leaving age until the full adult rate is reached at 18 in France, Spain and Luxembourg, 20 in Portugal and 23 in The Netherlands.

IRS also produce figures for the numbers of workers paid at the level of the statutory minimum in those EEC countries which have one.

European Industrial Relations Review, Nos 144 to 145, IRS, 67 Maygrove Road, London NW6 2EJ.

Timetable set for privatisation of water industry

BY RICHARD EVANS

THE PRIVATISATION of the water industry, potentially the most contentious of all the Government's plans to sell off public assets, will be placed on the political agenda this week with the publication of a Government White Paper (policy document) setting out a timetable.

It will be the largest sale the Government has yet attempted in terms of total assets, dwarfing the flotation of British Telecom last year. The 10 water authorities in England and Wales have a total asset value of £27bn.

The main proposal in the Environment Department White Paper expected on Wednesday will be a Bill at the start of the next Parliamentary session in the autumn legislating for the sale of the authorities to private investors.

The formula will be for the authorities, which vary widely in size and in characteristics, initially to become public limited companies wholly owned by the Government. Each would then be sold off individually as and when it was considered suitable.

In practice this would mean that an authority like Thames Water, which makes an operating profit and is relatively debt free would be an early candidate, while other authorities like North West Water, which has enormous capital investment difficulties with collapsing sewers in Manchester and the cleaning-up of the Mersey, would be at the back of the queue.

What the sale will fetch is unclear. Mr Roy Watts, chairman of Thames and the most enthusiastic advocate of privatisation in the industry, estimates that Thames would be valued at about £1bn. Others reckon that all 10 authorities could fetch between £3bn and £5bn. This compares with the £3.9bn from the sale of British Telecom and around £8bn expected for British Gas.

The Water Authorities Association, which acts for all 10 authorities, is strongly opposed to any fragmentation of the industry, and the White Paper is expected to support the retention of the present organisation based on natural river basins, with authorities responsible for managing the whole of the water cycle.

The WAA has acknowledged that there could be a risk of conflict between the interests of shareholders and the discharge of the authorities' regulatory and community service functions, which tend to be a charge on the authority rather than a source of revenue.

These functions include conservation of water resources, anti-pollution measures, land drainage, fishing, the regulation of discharges, and recreation. To meet the difficulty, some kind of regulatory authority similar to Oftel (Office of Telecommunications) is expected to be set up.

Banks consider role in flotation of BA

BY LYNTON McLAIN

BANK customers may receive British Airways prospectuses with their bank statements when the airline is privatised later this year.

Discussions between the Government, British Airways and the banks have already started and a decision could be taken within the next few weeks. It would be the first instance of the Government using any organisation's mailing list to promote the sale of state assets.

"We want to involve the high street banks in the wider distribution of the prospectus," Mr Michael Spicer, the Aviation Minister, said in an interview.

He made clear that he favoured the idea of sending a prospectus to every bank customer. The Government is also examining the possibility of using the Post Office as a distribution point.

"The sale of British Airways is central to the Government's wider share ownership schemes and the sale of shares in the airline is an important ingredient in the policy," Mr Spicer said: He wanted the sale of BA to involve the widest share ownership so far seen in a nationalised industry sale.

There had been, he said, a "degree of interest" from the banks in the idea of using customer bank statements as a vehicle to send out the prospectus.

All four leading clearing banks said they had been approached and were considering the possibility of using their customer lists for distributing the prospectus for a fee.

A big difficulty could arise over the confidentiality of information about their customers.

Midland Bank said the issue was being considered by senior executives who had had meetings with British Airways. "Our customer list has never before been used for distribution of material from outside the bank," it said. "The confidentiality is the conundrum, but there are changes taking place in the City and we have not ruled out the possibility of new developments."

Copyright pirates dent sales by £1bn a year

BY RAYMOND SNODDY

THE BRITISH copyright industries, ranging from books and records to computer software, are losing an estimated £1bn a year in sales worldwide because of counterfeiting.

British books from the Oxford English Dictionary to Jeffrey Archer novels are being counterfeited from Amman to Jakarta, according to a study published today. The report is being sent to government ministers with an urgent appeal for tough government action to protect British copyright interests in overseas markets.

The report is the work of the UK Anti-Piracy Group, whose members include the Publishers Association and the International Federation of Phonogram and Videogram Producers (IFPV). The UK recording and book publishing industries lose £158m a year from piracy in eight countries which have been reviewed.

The British copyright industry, which also includes film and video, is estimated to contribute nearly £6bn a year to the economy in terms of gross value added, about 2.6 per cent of gross domestic product.

The report, International Piracy – The Threat to the British Copyright Industries, calls on Whitehall to: -

● give a much higher priority to the pirating and counterfeiting of British goods and intellectual property;

● set up a senior task force to coordinate activities against piracy and counterfeiting;

● review current trade and aid arrangements where pirates are active.

The study identifies Singapore as the world capital of piracy. Tape piracy is rife, UK book publishers' losses are estimated at £16m a year and it is possible to counterfeit copies of any piece of well–known business software.

Sterling policy attacked

THE GOVERNMENT'S policy of holding up interest rates to defend the pound may prove "extremely damaging," according to the stockbroking firm Rowe & Pitman, Michael Prowse writes.

In the firm's latest circular, Mr Walter Eltis, an Oxford economist, says Mr Nigel Lawson, the Chancellor of the Exchequer, should stop obstructing the operation of market forces.

The Chancellor, he states, is using the " highest real interest rates in the western world to prevent sterling falling when market forces, which are aware of the impending deterioration in Britain'a oil account, are seeking to pull sterling down to a level at which the non-oil sector can gain markets and hence replace oil."

Mr Eltis suggests that Britain'a balance of payments on current account could deteriorate at a steady rate of about $1bn a year as oil revenues decline. The £3bn surplus in 1985 would be transformed into bare balance by 1988 and a £5bn deficit by 1993.

In these circumstances, he says, the Chancellor should not attempt to resist market forces which are pressing for a substantial real depreciation of the pound.

□ BRITISH Airways has ordered a computerised energy management system developed by BICC Transmitton. The system, costing £1.4m, is intended to save the airline initially up to £1m, rising to £2m, on its annual energy bill at Heathrow airport, London.

□ ANGLO-CARGO Airlines has protested to the Department of Transport about a rule which permits foreign cargo airlines to fly into UK airports without the noise limits or other restrictions which apply to UK registered operators.

□ EXPORTS of Scotch whisky earned a record £994m in 1985, an increase of 7 per cent in value over the previous year.

In volume terms exports were down by 2 per cent, at 225,894,432 litres of pure alcohol. This was due to a fall of 31 per cent in shipments of bulk malt whisky, particularly to Japan. Shipments of bottled whisky, which represents 70 per cent of Scotch exports, rose by 2.5 per cent.

هكذا منذ الأزل

The new Mercedes-Benz 200-300E series. Shrinks the miles. Stretches the imagination.

The Mercedes-Benz 200-300E series represents a totally new generation of medium-sized cars.

New from the ground up and from numberplate to numberplate. Yet the cars are still classically Mercedes-Benz.

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In the new 200-300E series, the driver can feel instantly at ease with his machine.

The engines only whisper their presence, the progressive power-assisted steering transmits a precise feel of the road. The dynamic handling characteristics inspire confidence at all times.

And with six engine options, you can choose precisely the right power for your needs, from brisk to distinctly sporty.

Model	Engine size (cc)	Cylinders	Transmission (standard)	Horsepower (DIN)	Top speed (mph)	0-100kph (0-62mph)	Price (£)
Petrol 200	1997	4	5-speed manual	109	116	12.6 secs	12500
230E	2299	4	5-speed manual	136	126	10.4 secs	13665
260E	2599	6	4-speed auto	166	133	9.5 secs	16170
300E	2962	6	4-speed auto	188	139	8.2 secs	17840
Diesel 250D	2497	5	5-speed manual	90	109	16.2 secs	13790
300D	2996	6	5-speed manual	109	118	13.7 secs	15600

Each one delivers its power in a relaxed, leisurely manner. For instance, at 70mph the 230E engine is turning over at under 2500 rpm.

There are useful reserves of power built in, too. The 300E will comfortably reach 139mph.

Naturally, with this power and performance, handling and suspension have to be exceptional.

Not surprisingly the 200-300E series probably has the most highly-developed steel suspension system on any saloon car in the world. This gives the driver the confidence to take fast bends in a relaxed manner, without ruffling his passengers.

And when you need to cut the performance and come to a standstill, the massive 4-wheel dual circuit disc brakes will see to it that you come speedily to a halt in a most undramatic manner.

Engineered to be safe.

The 200-300E series is yet another celebration of Mercedes-Benz' dedication to safety.

The passenger compartment has been made even more resistant to lateral impacts and roll-over accidents.

The front seat belts have unique electronic tensioners which work instantly in the event of a severe head-on impact, to give maximum restraint.

In order to maintain the clearest possible view of the road ahead in heavy rain, Mercedes-Benz have taken a whole new look at the windscreen wiper. Their new eccentric-sweep version cleans an unprecedented 86% of the screen.

And, with optional ABS anti-lock braking, no combination of road surface or weather conditions will prevent you from retaining total steering control during an emergency stop – because each wheel will give maximum braking power without skidding.

Engineered to be economical.

Science and engineering have joined forces to produce engines for the 200-300E series that have greater performance than before, with far greater economy.

Critically balanced crankshafts, reduced masses and lower friction losses combine to extract the maximum drop of power from the minimum drop of fuel.

Add to this the aerodynamically sculptured bodies, using weight saving materials, and you'll begin to see why the average* fuel consumption figures for the new 200-300E series are at least 17% better than the figures for the comparable previous models.

The new 200-300E series offers the driver the perfect balance between everything he seeks in a car. The driving experience is smooth and effortless, yet the dynamics of the new suspension and power units encourage sporty driving.

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Mercedes-Benz

Engineered like no other car in the world.

Official Fuel Consumption Figures – mpg (litres/100 km).
200 5-speed manual: Urban 25.1 (11.2), 56 mph 46.1 (6.1), 75 mph 36.7 (7.7). 230E 5-speed manual: Urban 25.4 (11.1), 56 mph 45.8 (6.2), 75 mph 36.8 (7.7). 260E 4-speed automatic: Urban 23.3 (12.1), 56 mph 34.4 (8.2), 75 mph 28.5 (9.9). 300E 4-speed automatic: Urban 22.8 (12.4), 56 mph 34.0 (8.3), 75 mph 28.2 (10.0). 250D 5-speed manual: Urban 31.6 (8.9), 56 mph 52.1 (5.4), 75 mph 40.3 (7.0). 300D 5-speed manual: Urban 29.9 (9.5), 56 mph 52.5 (5.4), 75 mph 40.6 (7.0).
* Average based on one third each of Urban/56/75 mph fuel consumption figures.

Peter Marsh on the British and US defence officials' meeting over Star Wars

Bidders face uphill struggle

OFFICIALS from the UK Defence Ministry and the US Defence Department meet today in Washington in an attempt to finalise the areas of technology in which British companies could participate in President Reagan's Strategic Defence Initiative.

The talks, due to last until Wednesday, represent an effort to draw conclusions from the series of technical workshops between UK and US officials since the two countries signed a general agreement on Star Wars collaboration in early December.

The $26bn project is due by the early 1990s to devise a strategy to defend the West from Soviet missiles, for instance by shooting them down with exotic devices such as laser guns. Plessey, GEC, Logica, British Aerospace, Ferranti and Thorn EMI are among the companies that hope to gain Star Wars contracts.

Despite the agreement, it has become clear in recent weeks that British contractors face several major hurdles to gain work under the programme.

This week's discussions, and the workshop sessions which preceded them, are largely to inform the Pentagon's SDI Organisation, the body in charge of the Star Wars programme, of the capabilities of UK industry.

The meetings have emphasised areas in which British defence contractors may have a lead on their US counterparts. These include the design of the "battle management" computers that would control and monitor Star Wars weapons; sensors to work out the positions of Soviet missiles; and "architecture" studies to devise the correct arrangement of weapons in a Star Wars system aimed at defending not just the US but Western Europe.

Following these meetings, UK companies will have to bid on specific Star Wars contracts in competition with US defence concerns. The British companies face an uphill struggle because of their relative lack of knowledge of the key technical issues in Star Wars.

So far they have been denied access to the more classified details of Star Wars work in the US – on which about $4bn, in the form of some 2,000 different contracts, has already been committed to US companies and government laboratories.

The first classified briefing to UK industry on Star Wars is due to take place in London on February 18. The Defence Ministry plans this week to invite to the gathering about 100 British companies, which include not only defence contractors but concerns involved in civilian applications of technologies such as electronics and new materials.

About 250 people are expected to attend the briefing, which is to be addressed by Lt Gen James Abrahamson, director of the Pentagon's SDI Organisation.

Another difficulty for British companies is that they have yet to be informed of the details of the December agreement, which the two governments regard as confidential.

The accord covers key issues such as the rights of British companies to commercialise technologies which they may develop while working for the Pentagon and the degree to which they will have access to technical know-how owned by US concerns.

According to the Defence Ministry, the secrecy is justified by the fact that the UK companies themselves may not wish competitors to know the conditions on which they may in future work for the Pentagon. Another reason for withholding details of the agreement is to give nothing away to other governments – such as West Germany and Italy – which are negotiating their own Star Wars deals with the US.

None the less, the secrecy has made it difficult for British companies interested in Star Wars to discover the terms of any contracts that are awarded. It is expected that at least some of the details of the December accord will be released at the London briefing later this month.

Several British companies have attempted to find alternative mechanisms to finalising Star Wars contracts, other than by negotiating with the SDI Organisation via the Defence Ministry. They are either talking to the SDI Organisation directly – by this route Ferranti already has a draft contract for about $150,000 to work on optical computing – or are attempting to gain contracts with US defence companies already working on Star Wars.

British Aerospace, for instance, last autumn sent a team of executives to the US to talk about Star Wars to major defence concerns.

It appears, however, that before US companies sign Star Wars agreements with overseas concerns they must seek the permission of the Pentagon. This is to ensure the deals do not transgress US Government guidelines over the transfer of technology to foreign countries.

At the very least, this provision could hold up contracts between US and UK concerns

Martin Marietta, the US aerospace company, is particularly keen to reach agreements with European concerns over Star Wars. The company is working on a $5m architecture study for the Pentagon, which emphasises the use of European ideas to defend the continent against nuclear attack.

Mr Bob Fisette, vice president of Martin Marietta International, says the Pentagon has told him to hold back from signing up European concerns as subcontractors prior to it formulating a general policy on technology transfer under Star Wars.

Ministers plan inner city 'task forces'

By John Hunt

PROPOSALS to improve employment opportunities in the inner cities, particularly among ethnic minorities, are expected to be unveiled by the Government in the next few weeks.

The plan would involve co-ordinating existing programmes and getting "value for money" rather than the expenditure of any new public funds.

The scheme is being drawn up by a committee representing a cross-section of government ministers. It will meet to discuss details tomorrow and plans could go before the Cabinet for approval on Thursday.

Work on the scheme, which would involve the creation of 10 "task forces" for various cities, has been speeded up in view of the latest record unemployment figures.

The Government would clearly like to have the scheme in operation before the local council elections in May. It is likely to be denounced by the opposition parties as a public relations exercise.

The task forces would be based on the scheme which is already in existence in Liverpool. Under this, civil servants co-ordinate existing programmes and look for ways to improve efficiency

US biotechnology wins investment backing

BY DAVID FISHLOCK, SCIENCE EDITOR

BIOTECHNOLOGY Investments, the N. M. Rothschild trust specialising in biotechnology shares, reports a continuing strong flow of proposals from unquoted biotechnology companies.

Lord Rothschild, its chairman, in his half-year report says it has received a further 38 proposals, compared with 76 for the previous 12 months.

Britain was strongly represented with 13 proposals, compared with 21 from the US and others from Australia, Denmark and West Germany. But the UK proposals fail to feature among the five new investments Biotechnology Investments has made.

The trust has put $1.5m into Nordisk Gentofte, of Copenhagen, the world's third biggest producer of insulin after Eli Lilly and Novo, with about 10 per cent of the market.

Nordisk began as a partnership of three scientists in 1923 but in 1984 its production and marketing activities were transferred to a limited company.

Last summer it raised $14.2m in London and Copenhagen.

The trust's other four unquoted investments are all in the US: in Sepracor, specialising in membrane separation technology; Biotrol, specialising in microbial treatments for wastes; Embrex, specialising in products for the poultry industry; and Immunetech Pharmaceuticals, specialising in novel peptides to control diseases of the immune system.

Lord Rothschild says that the 16 per cent rise in the trust's net asset value per share in the six months under review – making about 32 per cent for the year – reflects the recent strong performance of quoted biotechnology shares on Wall Street.

Investor interest has been stimulated, he says, by bids for two US companies, Hybritech and Genetic Systems.

CONSTRUCTION CONTRACTS

Global orders worth £52m for Lilley

LILLEY, Glasgow, has been awarded contracts worth nearly £52m. They include a major sewerage scheme in Milwaukee, US, a prison unit in New York State, a site preparation scheme in Hong Kong, several factory developments in the UK and an ice-rink in Livingston, near Edinburgh.

Lilley's American subsidaries have won awards totalling £8.59m. Harrison Western Corporation has been awarded a £6.57m contract for construction of a 17-ft main sewer tunnel in Milwaukee, Wisconsin. John W. Cowper Co will build two inmate housing units worth £1.62m at the Wyoming Correctional Facility at Attica in New York State, and the Mars Construction Co has secured allrelated contracts worth over £400,000. In Hong Kong, Lilley Construction will undertake a £5.4m site preparation contract for a new housing development in the Tai *Po/Fanling* area.

Lilley Construction has secured several factory building orders in the UK. In Hampshire, work will start shortly on a £1.2m factory and office block for Municipal Mutual Insurance at Farnborough which will be occupied by Loma Engineering, with complete design and building responsibility for the project. At Petersfield, construction of two three-storey blocks of sheltered accommodation, worth £1.08m is being undertaken for East Hampshire District Council.

*

The Scottish division will build four retail warehouses and an ice rink for Ravenstone Securities (Holdings) at Almondvale, Livingston, in a contract worth over £2.2m. At the Motherwell Food Park, Bellshill, near Glasgow, Melville Dundas and Whitson will construct a £1.36m food processing unit for the Scottish Development Agency, to house a Japanese food processing company, Kibun (UK). A contract has also been placed by Grosvenor (Perth) for a £1.38m multistorey car park in Canal Street, Perth.

Both Lilley Construction and MDW have won Ministry of Defence contracts. Lilley is undertaking a £1.18m contract for the PSA to construct a reinforced concrete culvert and ancillary work adjacent to the quay wall in Tango Berth II in the Naval Dockyard in Rosyth. MDW has secured an order for a £931,000 Territorial Army Centre in Cathcart, Glasgow.

In Leeds, George Longden Construction has begun work on a £1m plus contract for the City Council to build 43 houses, communal rooms and associated works in the Hunslet district. In the Dumfries and Galloway region in Scotland, Robison and Davidson will undertake several new building, rehabilitation and renovation housing contracts for Nithsdale District Council and Annandale and Eskdale District Council with a value in excess of £800,000.

City complex in Glasgow

SIR ROBERT McALPINE & SONS has been awarded an £8m contract to build the Princes Square shopping centre in Glasgow. Joint developers are Guardian Royal Exchange and Teesland Development Company. The speciality shopping complex sitated behind Buchanan Street covers an area 50 x 60 metres. The existing stone buildings fronting Buchanan Street will be refurbished while the remaining buildings on the other three sides will be demolished except for their facades. On completion in December 1987, the centre will house 70 shops, restaurants and bars on four galleried upper tiers plus a central courtyard below street level containing a food court and providing the stage for continuous entertainment which can be viewed from all levels. The central courtyard will be covered by a glass roof to form an atrium.

*

HENRY BOOT NORTHERN has started work on a £7.2m management contract for construction of a manufacturing facility and offices for Thomas's (a division of Mars GB), in Leeds. The company is also responsible for the design which will house pet food processing, and will include offices, car park and ancillary works. Contract completion is scheduled for late 1986. Henry Boot Southern has been awarded a £4m contract for construction of a reinforced concrete multistorey car park in Brirmingham, to be built over the British Rail Snow Hill Station, to provide 870 car-parking spaces. Work on the 62-week contract has started. Work on a £1.4m contract for construction of a 56,000 sq metres warehouse with attached offices for ICL in Stevenage has also started. In addition the contract involves construction of roads, car-parking, pump house, store and landscaping. The 42-week contract is scheduled for completion in November.

*

COSTAIN DUBAI COMPANY, a joint venture comprising Costain International and H. E. Humaid bin Drai, has been awarded a £1.1m contract for the civil engineering work associated with a new luboil blending and packaging plant at Jebel Ali Port, Dubai, United Arab Emirates, by BP Arabian Agencies. The contract involves construction of a steel-framed blending building of about 3,000 sq metres, together with boiler house, garage, administration block and gatehouse.

£10m awards won by Balfour Beatty

BALFOUR BEATTY CONSTRUCTION has been awarded over £10m contracts throughout England and Scotland. At Hillend in Fife, work has started on a £2.6m factory for the Scottish Development Authority which will house the new manufacturing facilities of Optical Coatings Company, at Spennymoor, County Durham, and a £2.9m design and construct contract will provide Black and Decker with 118,000 sq ft of refurbished warehousing and office space on an existing industrial site. In Newcastle, two contracts totalling £1.8m have been awarded for refurbishment of the former Royal Turks Head Hotel in Grey Street to form shops and offices together with a development at the rear of the hotel. Other contracts include a scoreboard at Meadowbank Stadium in Edinburgh for the Commonwealth Games, a vehicle maintenance depot at Cargo Fleet, Middlesbrough, a car park for IBM at Greenock, industrial site works for Vickers Shipbuilding and B.G. Hydrocarbons at Barrow and a passenger handling building at Aberdeen for Bond Aviation. Further building works for W. L. Gore at Dundee, a design and construct project at ICI Wilton for Don Valley Engineering, a cycleway and footpath at Middlesbrough and a PSA maintenance contract at Kentigern House in Glasgow will also be carried out.

Greater Manchester Council has awarded Balfour Beatty Construction a £7.9m contract to construct the M63 Improvement Stage III—Carrington Spur. The works consist of the construction of 2 km of 10-metre-wide flexible single carriageway linking the A6144 with the M63, a new junction with the M63 and two link roads parallel to the M63 between Junctions 6 and 7. Structures include a two-span bridge over the River Mersey, a single-span bridge over the existing motorway, and a threespan footbridge.

Brazier active in Southampton

The BRAZIER GROUP, Southampton, has been awarded contracts valued at £8.5m. They include a £2.7m library extension for Southampton University and a £1.5m community psychiatric centre at Marchwood near Southampton. The group has also been awarded refurbishment contracts including a £500,000 contract at Marlands House, Southampton and alterations and an extension to Royal Pier Gatehouse, valued at £450,000. Two contracts for the Property Services Agency are a £500,000 refurbishment to Government House, RMA Sandhurst, and re-roofing the administration block RARDE in Chertsey, at £450,000.

New facilities for Ind Coope

A £30m capital programme is under way at Ind Coope Burton Brewery plant in Staffordshire. The work includes building e new kegging hall along with warehousing facilities, and has been awarded to NORWEST HOLST and is worth over £6m. All new structures will be steel-framed with mass concrete pad *foundations and ground-bearing* concrete floors. Some 18,000 sq metres of slab construction is involved with a further 6,000 sq metres of refurbishment. Saxby Brothers, Wellingborough, has awarded Norwest Holst e contract worth about £2m to extend its pork pie factory in Northamptonshire.

*

DRAKE & SCULL ENGINEERING (a Simon Engineering company) has obtained a contract at a Shell Stanlow plant. The £1.3m order is for the heating and ventilating services at the new Shell Lubricants Centre and has been awarded by M. W. Kellogg & Co Ltd, the designer and main contractor.

INTERNATIONAL APPOINTMENTS

ITT reshuffle in US and Europe

BY PAUL TAYLOR IN NEW YORK

ITT, the US-based multinational conglomerate, has announced that Mr William Smith, the group's 41-year-old chief technical officer and the executive in charge of its struggle to adapt ITT's System 12 digital telephone exchange switch to US standards, has resigned to rejoin American Telephone and Telegraph (AT and T), his previous employer, as an executive director of network planning at AT and T's Bell Research Laboratories.

At the same time, ITT has announced a series of senior management appointments in its European telecommunications operations, aimed at strengthening research, marketing and manufacturing efforts, particularly for its System 12 digital switch. The new senior managers will report to Mr Daniel Weadock, president of ITT Europe and an ITT group executive vice president.

Blow to System 12

Mr Smith's decision to resign from ITT, where he had been the group's technical director in Europe until his promotion a few months ago, appears to be a further blow to ITT's plans to adapt System 12 to US standards. Mr Smith retained his European responsibilities after becoming the group's chief technical officer, and had recently led the group's accelerated effort to make the System 12 switch ready for the US marketplace.

He apparently decided to leave ITT for personal reasons. However, his departure comes at a critical time for ITT, which recently announced delays in the installation of its first commercial System 12 switch in the US because of software difficulties and other problems in adapting the sophisticated equipment to US standards. That delay has raised questions on Wall Street about whether ITT will miss a major opportunity to sell System 12—its flagship product developed over a decade at a cost of $1bn—to the now independent, local Bell telephone companies. ITT spent $105m last year in its efforts to adapt System 12 for the US market.

While ITT has been very successful selling System 12 in Europe and elsewhere outside the US, its flagging efforts to adapt the system for sale in the key US market have raised questions about the group's ability to gain a major share of the currently booming US market for such equipment.

The group recently commissioned a marketing study of the US digital equipment market by Booz, Allen and Hamilton—the management consulting firm—which is understood to be nearing completition. ITT says the report represents "another input to management."

There has been speculation on Wall Street that ITT might be considering scaling back its efforts to bring System 12 to market in the US in order to concentrate on sales of the advanced telephone switching gear in Europe. While ITT has given no indication that it may be preparing to scale back or abandon its efforts to adapt and market System 12 in the US, the project, like ITT's other major businesses, is under constant review by senior executives, and by the board at its regular monthly meetings. ITT's board is due to meet next on February 11.

European success

At the same time, the appointment of three key new executives to ITT's Brussels-based European telecommunications operations underlines the group's attempt to capitalise upon the success of System 12 orders in Europe—and ensure that delivery schedules are met and that research updating System 12 for the European Customers continues.

The three new appointments, announced by Mr Weadock, are:

● Mr Gerhard Zeidler, aged 49, will replace Mr Smith as general technical director of ITT Europe. Mr Zeidler, a 20-year veteran of ITT's West German standard Electrik Lorenz (SEL) subsidiary, will be in charge of 9,500 scientists, engineers and technical staff involved in product development and long term research.

As part of his responsibilities Mr Zeidler will have full management responsibility for all the technical aspects of System 12 which he helped develop while head of SEL's technical department. Mr Weadock noted that the appointment represented evidence of ITT's "firm commitment to research and development in Europe," and added, "System 12 is a key element in our long-term telecommunications strategy."

● Mr David Levy, a former vice president in charge of large systems and peripherals development at Canada's Mitel telecommunications equipment group, is named director of ITT's International Telecommunications Centre in Brussels. The Centre is responsible for the development of System 12 and related international products. Mr Levy, who has also worked for Bell Northern Research, IBM and Marconi, will be in charge of 150 engineers and support staff working on further development of System 12, which is in service in nine nations and has been ordered by administrations in 21 countries.

● Mr Alan Lutz, aged 40, was named to the new post of vice president and group executive for international operations in ITT Europe. Mr Lutz, a former vice president of switching in Northern Telecom's integrated network systems group, will have headquarters responsibility for ITT's European telecommunications companies in Austria, Denmark, Finland, Holland, Portugal, Sweden and Switzerland — which manufacture telephone switching and transmission equipment for local telephone companies.

Goodman Group head quits

By Dai Hayward in Wellington

MR PETER SHIRTCLIFFE, chief executive of the Goodman Group, New Zealand's aggressive bakery, flour-milling and food concern, has retired 10 years after becoming chairman.

"The chief executive's role has grown to the stage where it is now best suited to someone around the age of 40," says 54-year-old Mr Shirtcliffe.

A new managing director has not yet been appointed.

Mr Shirtcliffe was chairman of the group between 1976 and 1979, and then took over the role of managing director, which gave him more direct and day-to-day involvement in the company.

During his time as chief executive the company, which was earlier known as A. S. Patterson, has expanded and developed rapidly. It has also adopted an international role, and is now one of New Zealand's most internationally-minded companies.

Mr Shirtcliffe has been appointed chairman of the new government-created Marketing Development Board. The Board has three main areas of responsibiity. It will advise the government on New Zealand's marketing development, will put together marketing proposals to encourage exporters to seek out new markets, and will provide a bridge between the private sector and the government.

Toshiba change at top

TOSHIBA Corporation, the Japanese electrical products concern, has appointed Mr Sugiichiro Watari, aged 60, president and chief executive, with effect from April 1. He succeeds Mr Shoichi Saba, 66, who has filled the posts since 1980 and is to be chairman.

Mr Watari, who has been with Toshiba since 1948.

Finnish MoF

MR KARI NARS, former managing director of Bank of Helsinki, has been appointed director for foreign borrowing at Finland's Ministry of Finance. Mr Nars resigned from BoH shortly after the bank was acquired by Union Bank of Finland in December.

Chairman-elect at Union Pacific

UNION PACIFIC Corporation, the New York-based railway company with interests in natural resources, plans to appoint Mr Drew Lewis, aged 54, former US Transportation Secretary, chairman and chief executive in October next year, when Mr William S. Cook retires, report agencies.

Mr Lewis became a director last month, and is to become chairman and chief executive officer of Union Pacific Railroad Company, a subsidiary, on April 1.

He is next year to succeed Mr Cook as president of the parent company, and to fill the currently vacant post of chief operating officer, ahead of taking on the further duties.

* * *

CHEVRON Corporation, the international oil company with headquarters in San Francisco, has announced that Mr J. Dennis Bonney, vice president, has been elected to the board.

Mr Bonney, 55, joined Chevron in 1960 and has been a vice president since 1972. As vice president, Mr Bonney has most recently been responsible for some of Chevron's foreign operations. He is scheduled, it was previously announced, to assume responsibility for logistics and trading.

* * *

TEXACO, the international oil company based in White Plains, NY, has elected Mr David C. Crikelair as treasurer, in succession to Mr Edward W. Wolahan, who has retired.

Mr Crikelair, who will also be head of the company's finance department, has been senior assistant treasurer and assistant general manager in the finance department since May last year.

* * *

MR RENE WILDI has been appointed general manager of the Middle East-Africa region by Dow Chemical Europe, the Swiss-based regional subsidiary of Dow Chemical of the US. He will continue in his current positions as a vice-president of Dow Chemical Europe, general manager for Switzerland and a member of the Dow Chemical Europe operating board.

In the Middle East-Africa post he takes over from Mr R. M. Kila, who has been appointed director of strategic planning and diversification of Dow Chemical Europe, and a vice president.

New chief for Crown Corporation

By Our Wellington Correspondendent

MR JOHN HUNN, former general manager of New Zealand's Development Finance Corporation (DFC), has been appointed managing director of Crown Corporation, the diversified New Zealand concern with interests in agriculture and horticulture, meat processing and agricultural machinery.

Mr Hunn, 48, who has been with the DFC for the past 12 years, has been given the credit for taking the DFC from a "fledgling financial institution to one with an international reputation and interests in several countries."

Over the past few years, Crown has increasingly developed its financial services.

FINANCIAL TIMES SURVEY

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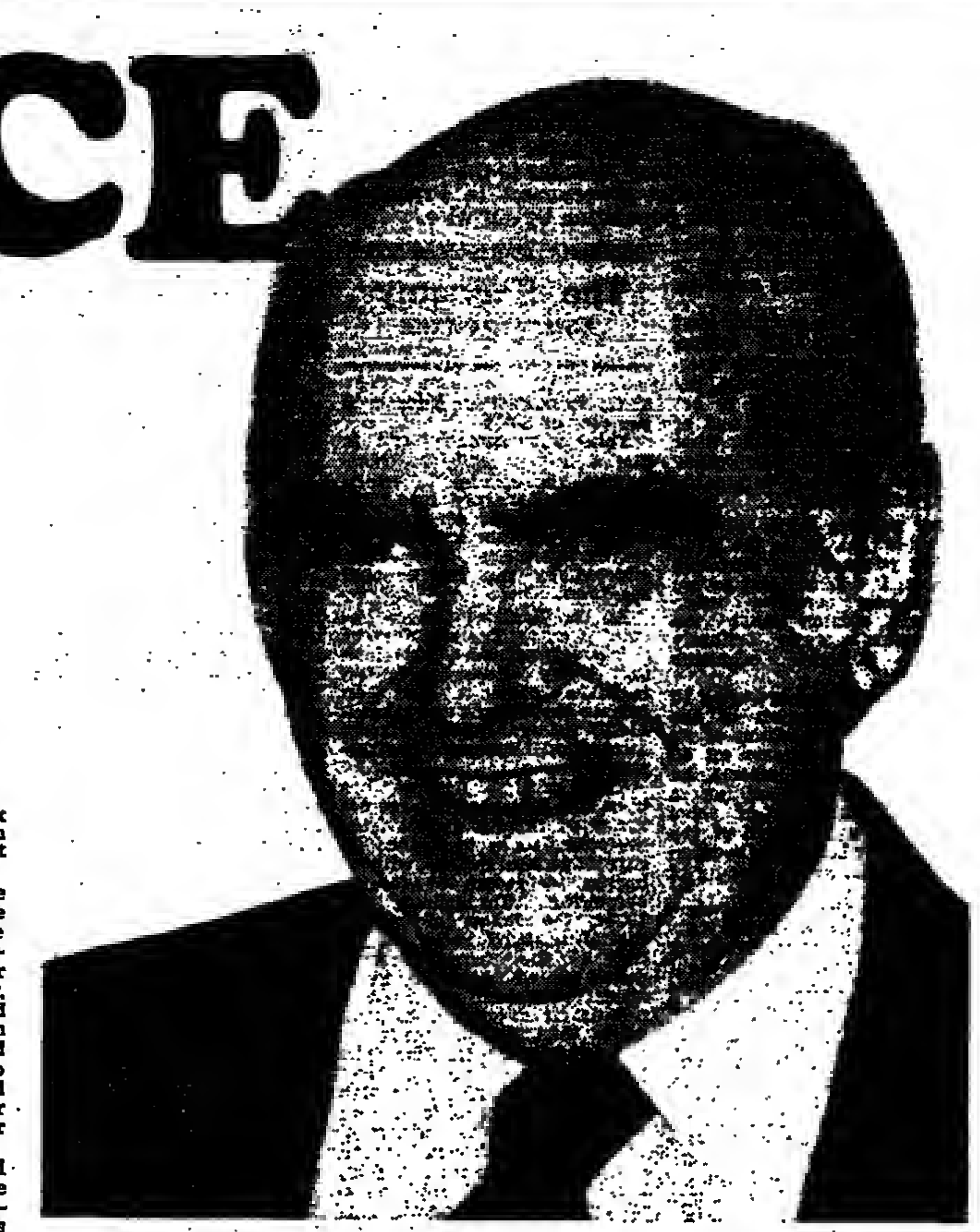
GREECE



Austerity measures to bolster the Greek economy have caused growing dissatisfaction and labour unrest, but significant foreign policy changes by the Socialist Government have met with little public reaction among voters so far.

● Dr Andreas Papandreou, Prime Minister of Greece (left): a man with ambitious plans for economic reform while mending fences with his country's western allies

A dramatic U-turn in policy-making

A NEW air of realism is blowing through the corridors of power in Athens, as Dr Andreas Papandreou's Socialist (PASOK) Government settles into its second four-year term in office.

The Socialists trounced the conservative "New Democracy" Party for the second time running in general elections last June, with 46 per cent of the vote—a remarkably small erosion of just two percentage points in support, compared with the 1981 PASOK victory, which brought Greece's first-ever Socialist Government to power.

BY ANDRIANA IERODIACONOU in ATHENS

Armed with this renewed mandate, Dr Papandreou has proceeded to launch a dramatic U-turn in both economic and foreign policy. Its success or failure could have far-reaching consequences both for PASOK and for Greece.

On the economic front, the Socialists' new philosophy is encapsulated in a package of economic stabilisation measures introduced last October, with the aim of bringing the runaway public sector and current account deficits under control and thus averting a possible future foreign debt crisis.

The Socialists have moved away from the easy incomes and spending policies of their first term which, they argue, were necessary in order to redress economic inequalities in Greek society which had built up under the post war administrations of the Right.

Under the new austerity regime, the Government has substantially remoulded the system of wage indexation which it first introduced in 1981, and imposed a two-year freeze, to the end of 1987, on any other salary and wage increases. An import deposit requirement has been introduced for a little under half of the products coming into Greece and the drachma has been devalued by 15 per cent to boost exports. Austerity budgets have been imposed on the central government and a two tranche Ecu 1.75bn loan secured from the European Community, to help in servicing the foreign debt which, according to Bank of Greece figures, has virtually doubled to about US$15bn since 1982 and even more according to independent experts.

The Government's targets are ambitious. The Socialists hope by the end of this year to have slashed the public sector borrowing requirement by four points as a percentage of GDP, to 13 per cent, to have reduced the current account deficit from over $3bn which it is estimated to have reached in 1985, to $1.7bn and to have trimmed inflation from more than 20 per cent in 1985 to about 16 per cent.

Although it has attracted much less attention than the economy, Dr Papandreou's re-orientation of foreign policy has also been pronounced. The Prime Minister now states clearly that Greece is in the EEC to stay and no longer raises the prospect of Nato withdrawal. The aim is to steer relations with the US into calmer waters: the thorny issue of the US bases, the Prime Minister now suggests, could be resolved by negotiating a new arrangement to replace the present five-year agreement for their operation, which the Socialists told voters would expire in 1988.

It is all a far cry from PASOK's 1981 election pledges to pull Greece, then a brand-new EEC member, out of the community, as well as Nato, and to "close down the bases of death."

Dr Papandreou does, however, stick to his support of nuclear disarmament: his close ties to the Arab World, including Syria and Libya, in spite of agreeing to work with the US to combat Libyan-backed terrorism, and his tough policy line on Turkey. Dr Papandreou makes clear that Greece will continue to abstain from Nato exercises in the Aegean until the island of Lemnos is included in the manoeuvre plans. This would mean over-riding Turkish objections to the militarisation of the strategically located Aegean island.

The Socialists also continue to predicate a dialogue with Ankara to resolve disputes on the sharing of sea and airspace rights in the Aegean, upon the termination of the 11½ year Turkish military occupation of the northern part of Cyprus.

So far, these foreign policy changes have met with little public reaction. Greek voters, showing more maturity than their political leaders have often credited them with, appear to accept the reasons of Realpolitik which dictate mending fences with the country's western allies.

The same cannot be said about the economy, where the abrupt arrival of lean times has, temporarily at least, dynamited the consensus which gave the Socialists their substantial electoral victory.

Greeks who voted for PASOK with an eye to their wallets, well-satisfied with the increases in real income of the administration's previous term, accuse the Government of having been unduly misleading in insisting all the way to the polls that the economy was safely set on the path to recovery.

Communist voters who cast their ballots for PASOK with the tactical purpose of preventing a return of the right to power, are now angered at being accused of collusion with the right when they support anti-austerity strikes.

Most important, the economic about-face has triggered a crisis of self-confidence within PASOK itself. Party cadres resent having to promote the new economic philosophy at the grass roots after having been excluded from the original decision-making by Dr Papandreou and a close circle of advisers.

They feel that PASOK'S image as the democratic political force par excellence, jealously fostered since the party's inception as an opposition movement to the colonels' dictoratorship and a key ingredient in its rise to success, has been tarnished by mass expulsions of leading trade unionists who dared to voice disagreement with the austerity measures.

Polls show the Government's popularity to have tumbled to its lowest point since 1981, while the period from October to December was punctuated by strikes and protest demonstrations.

However, the Government is now of the opinion that the worst is over. It points out that the strike wave has receded with the New Year, and that, despite the autumn unrest, 1985 was not the record year of the decade in terms of working hours lost: 1980, the year before the Socialists' election victory, when frustration with the Conservative government was at a peak, still tops that league table. Yet Mr Papandreou can hardly be sure that the current year, which promises to see growing dissatisfaction with the austerity measures, will not provoke a resurgence of labour unrest.

CONTINUED ON PAGE 2

New measures lay foundation for recovery

Tough reforms at last

THE PRESENT parlous state of the Greek economy has cast a pall of gloom over the country, which will not be dispelled until the austerity package adopted by the Government last October begins to bear fruit.

The U-turn in economic policy made by Mr Andreas Papandreou, the Prime Minister—similar to the one operated earlier by the Socialist government in France—apparently took the Greek population by surprise.

The Economy

ROBERT MAUTHNER

"Why weren't we told earlier about the economic crisis?" is a question frequently asked by the Greeks.

The answer is probably that Dr Papandreou, the former Economics Professor, was overruled by Mr Papandreou, the politician, who wanted to get last summer's election out of the way before adopting what he knew to be highly unpopular measures, not least within his own PASOK party.

The positive side of the picture is that, while the stabilisation package was certainly overdue, it was at least severe enough to convince international opinion that the Government was seriously tackling Greece's economic problems.

The main measures were a 15 per cent devaluation of the drachma, the imposition of an import deposit scheme on 40 per cent of total imports, an incomes policy based on a radical modification of wage indexation, a reduction of the public sector borrowing requirement (PSBR) and a curbing of tax evasion.

Urgent as the measures were—the OECD has welcomed them in its latest report on the Greek economy as providing the right medicine—it would be a mistake to think that there has been a sudden unexpected deterioration in the Greek economy. Many years of expansionary macro-economic policies, punctuated by only very short intervals of retrenchment, have contributed to a steady worsening of the balance of payments, the rate of inflation, public sector deficits and the country's indebtedness.

The current account first of all deteriorated sharply as the result of the first oil crisis in 1973, when the deficit reached more than 7 per cent of GDP. After several more favourable years, it took another plunge in the wake of the second energy crisis of 1979, doubling in the space of one year to $1.9bn.

In subsequent years, the deficit has fluctuated between 4.9 and 6.6 per cent of GDP, until last year, when it is estimated to have risen massively to more than $3bn, or 8 per cent of GDP.

This unfavourable trend is due mainly to invisible transactions, the surplus of which has declined sharply since 1980, both as a result of a fall in shipping receipts and because tourist earnings have been affected by the international recession.

As the Bank of Greece has pointed out: "The structure of the Greek economy, especially its heavy dependence on invisible earnings and on private capital inflows, makes it highly vulnerable to an adverse international economic environment."

Traditionally, Greece has been able to rely on a large net inflow of private capital from overseas Greeks to finance its current account deficits, without having to resort to foreign borrowing. Throughout the 1970s, the inflow of private capital financed some 92 per cent of the current account deficit but, while remaining substantial, its share in financing the deficit has fallen to little more than 50 per cent on average during the past six years.

The substantial foreign borrowing required to finance the current account deficit in the last few years has led to a sharp rise in the foreign debt. Total external indebtedness has doubled in recent years until it now amounts to some 45 per cent of GNP, according to the OECD, while debt servicing currently absorbs around 22 per cent of current external receipts.

If the Government has turned to the EEC rather than the International Monetary Fund (IMF) for aid to help finance its foreign debt, that is mainly due to Mr Papandreou's doctrine of "national independence" which, he felt, would be undermined by the rigorous conditions which the Fund normally attaches to its credits.

For some reason, the Prime Minister feels that the terms on which the EEC granted its six-year Ecu 1.75bn (£1.03bn) loan last November are more acceptable. Some observers suspect that, while the Government certainly hopes it can fulfil the conditions, it has calculated that Greece's partners will not allow it to go to the wall for political and strategic reasons, even if those conditions are not met by the deadline.

Yet the fact is that while Greece has been allowed another one-year's delay in the introduction of the value-added tax system and a similar extension before it must abolish export subsidies. Mr Costas Simitis, the Economy Minister, agreed to a number of tough economic targets for Greece.

The Public Sector Borrowing Requirement (PSBR) which, last year attained the record level of 17.5 per cent of GDP, is to be brought down by 4 percentage points in 1986 to about 13 per cent and a further 4 percentage points in 1987.

An inflation target of about 15 per cent by the end of 1986 has also been set, compared with an annual rate of 18.5 per cent in 1985 (OECD figure) or 21 per cent according to some official Greek figures, which tend to vary disconcertingly.

The Greeks have also given an undertaking to reduce substantially the rate of domestic credit expansion both in the current year and in 1987, and progressively to bring down the current account deficit to allow the stabilisation of external borrowing, estimated to reach more than $18bn by 1988.

Conditions

One of the most important conditions is that the loan is being made available in two tranches and that the second of these instalments, due in January 1987, will be liberated only after a review by the EEC of the results of Greece's stabilisation programme.

Whereas many doubts exist in Greece about how effective the austerity programme will prove to be—in particular, it is felt in some business quarters that the devaluation of the drachma was not enough — all experts agree that, at best, the package will lay only the foundations of a recovery.

In its report on Greece, the OECD strongly emphasises that effective supply side measures must be taken by the authorities and the business sector if productivity is to rise and a better all-round economic performance is to be achieved.

Special attention will have to be given to the state-dominated and antiquated financial system, which is no longer geared to serving a modern economy and promoting competition.

Used mainly to provide subsidies and incentives to selected sectors of the economy and to lower the cost of financing of the public sector, it has failed to meet the needs of private industry and led to a progressive decline in private investment.

Though business is obliged to rely heavily for its financing on banks and specialised credit institutions (SCI), the banks have only limited freedom to allocate credit. Some 75 per cent of bank portfolios are earmarked for loans to the public sector, long-term investment to industry and handicrafts and support for ailing industries.

Agriculture and housing absorb as much as 60 per cent of total loans to the private sector provided by the SCIs, while investment banks such as the Hellenic Industrial Development Bank have played a disappointingly small role in the creation of new internationally competitive businesses.

At the same time, Greece does not have an effective capital market. Issues of securities accounted for only about 25 per cent of finance to the private sector over the last decade and only very few companies are listed on the Athens Stock Exchange.

Not least, the interest rate structure is not determined by the market but by administrative decision and aimed essentially at providing subsidies and incentives for priority sectors laid down by the Government.

Though reforms are being gradually implemented, notably by reducing the large number of interest rates, narrowing their differentials and raising the whole range of rates in real terms, Greece still has a long way to go before its financial system can equal that of other Western European nations.

The hope is that the long-delayed structural reforms which are required to make Greece a competitive economy will be speeded up as a result of its membership of the European Community.

The outlook for 1986

Percentage changes in economic indicators

	1985	1986
Private consumption	1	−2
Government consumption	4½	0½
Fixed investment	1	−2½
Final domestic demand	1½	−1½
Total domestic demand	2	−2½
Exports	5½	6½
Imports	5	−3½
Foreign balance	−0½	3½
GDP	1½	−0½
GNP	1½	−1
Manufacturing output	0½	0½
Total employment	0½	−0½
Unemployment rate	(8½)	(9)
Implicit price deflators:		
Private consumption	18½	21½
GDP market price	18½	18
	(Figures in $bn)	
Trade balance	−6.0	−5.0
Invisible balance	3.1	3.2
Current account balance	−2.9	−1.8
General government net borrowing (deficit) (per cent of GDP)	(13.3)	(10.6)

Source: OECD estimates.

Employment comparisons

% by sector of activity

Sector	Greece	EEC—10
Agriculture	30.0	7.6
Industry	27.1	35.8
Services	42.9	56.6

Inflation rate

(percentages)

	EEC—10	Greece
1980	14.2	24.5
1981	12.9	24.5
1982	10.1	21.0
1983	7.6	20.2
1984	6.3	18.4
1985 (Nov)	5.1	22.7

Source: Eurostat.

Economic U-turn

CONTINUED FROM PAGE ONE

The Socialists can also comfort themselves with the vacuum that exists in Greece today as a result of the absence of a dynamic opposition to PASOK.

"New Democracy" under the leadership of Mr Constantine Mitsotakis, remains faction-ridden and demoralised after two successive defeats at the polls. Having repeatedly accused the Socialists of driving the country to bankruptcy, the conservatives have been hard put to it to disagree convincingly with the stabilisation package, or to propose more effective or more palatable measures of their own.

Nor is there is a viable third alternative. The pro-Moscow Communist Party of Greece (KKE) is in a slow decline, while the small Eurocommunist Party lacks a convincing government platform. One or two small splinter parties, formed from PASOK and New Democracy, have failed to make much of a mark. Among Greeks who are disillusioned with PASOK, the sense of having arrived at a political dead-end is strong.

For the time being, the Government is concentrating on gearing-up for municipal elections next October. The Socialists do not have to face general elections until 1989. Much could happen by then to change the political scene.

Speculation in Athens includes a possible move by Dr Papandreou to the presidency. The splitting up of either or both PASOK and New Democracy into hardline and moderate factions, and the emergence of a new centre force, and the convergence of the two Communist parties. Athens has not yet seen the last changes of direction.

Moves to modernise the system

Banking

ANDRIANA IERODIACONOU

THE GREEK banking system is nothing if not idiosyncratic. Dominated by state-controlled banks, which cover about 80 per cent of the market—about eight Greek private banks and some 30 foreign banks make up the remainder—and strait-jacketed by an antiquated and complex system of reserve requirements and regulated interest rates which are negative relative to double-digit inflation, much higher than the EEC average, it little resembles banking in most other Community countries.

Over the past three years the Bank of Greece has taken some pioneering, if limited steps, towards deregulation. The web of dozens of lending rates governing every conceivable type of activity—there was a special rate for flour mills for example—has been consolidated to four basic, maximum, rates: 21.5 per cent for working capital, 18.5 per cent for long-term investment, 16 per cent for agriculture and 17 per cent for small businesses and housing.

Case by case control of lending by the Bank of Greece has been relaxed, and banks encouraged to take their own decisions —for the first time, on "business criteria"—on whom to lend, or not to lend, to within the above four broad lending categories.

Central bank officials admit, however, that they are now in a dilemma. On the one hand deregulation has not gone nearly far enough, either in terms of bringing Greece's banking system closer to that of other developed western countries, or in terms of what private Greek and foreign banks want to see.

"We're grateful for the consolidation of interest rates, but that was a long time ago, and meanwhile 70 per cent to 80 per cent of all our deposits are still on reserve with the Bank of Greece," says a foreign banker.

"In eight years as a bank manager in Britain I saw maybe six circulars from the Bank of England. Here we get a sheaf of telexes each day from the central bank," adds a Greek banker.

On the other hand, the changes made are assimilated with difficulty by state banks, used to being dictated to on every decision and unwilling to start taking their own risks.

Attempts to modernise Greece's money-under-the-mattress society, have run up against not only financial, but also psychological and even political problems. A plan to introduce a unified computer system and through that a network of automatic teller machines in the state bank sector has been abandoned as too expensive.

On the other hand, forward-looking directors of state banks considering co-operation in this field with private Greek or foreign banks have thought twice, nervous of being accused of working with "capitalists." The Greek public for its part remains suspicious of cheques, considering them much less safe than banknotes.

"If anything, we'll just have to bypass the era of the cheque and go straight into electronic money," says one Bank of Greece official.

Apart from the problems of bringing the banking system up to date, a serious shadow is cast by bad industrial loans of billions of drachmas granted during the boom years of the 1960s and 1970s to enterprises which are now financially ailing. The Socialist Government has taken over the management of several dozen such "problematic industries," with debts totalling about Dr 350bn to Greek and foreign banks, and private creditors, as the first step in a rescue programme. About Dr 170bn alone are owed to the National Bank of Greece, the giant of the state sector with about 60 per cent of the market.

Rescue plans

Interest payments to foreign banks are reportedly being kept up while the government decides on how to proceed with the rescue, but not so to the state banks—which, however, continue to show these payments as assets on their books.

"We are the only country in the world where banks always show profits and where no bank has ever gone under. You could say the Greek banking system is something of an accounting illusion," admits one banker ruefully.

Under the economic austerity measures introduced by the Government in October, bankers say they expect a decline in deposits which began at that time to continue in 1986. At the same time they say they expect investment activity to remain flat, despite the Government's hopes of a revival in business confidence.

On the plus side, the tight incomes policy for 1986 and 1987 will help keep down personnel costs, which have on average doubled over the past four years of relaxed wage rules—although foreign bankers in particular complain of a negative side of the coin, in not being able to offer competitive salary increases to top managerial staff.

Still on the bright side, the militant Greek bank employees federation, OTOE, has called a truce in its running war against foreign banks, whose independently unionised employees it has been trying to draw under its umbrella. Foreign bankers say they believe the Socialist government, unwilling to see banks quit Greece because of union problems, has intervened to check OTOE's crusade. They consider this an encouraging development in terms of Socialist attitudes towards foreign investors at large.

Looking to the future, officials at the Bank of Greece say that there can be no progress without a "serious" increase in interest rates, and a change in the present policy of setting maximum rates.

"With negative interest rates you can't have a proper foreign exchange policy, nor can you have a proper monetary policy when interest rates are maximum," says an official. "There is a political cost to making changes, but the economic cost of not making them is much higher."

Friends and foes on their toes

Foreign Affairs

ROBERT MAUTHNER

THE LEAST that can be said about Greek foreign policy under Mr Andreas Papandreou and his PASOK Government is that it has kept both friend and foe on their toes. Since first coming to power in 1981, the Government has shaken its allies by its hostility to NATO, its threat to close down the US military bases in Greece and to submit Greece's membership of the EEC to a referendum, as well as its hardline attitude towards Turkey.

If Mr Papandreou's bark has usually proved to be worse than his bite and his foreign policy posture has become markedly less aggressive towards the West since PASOK's election victory last year, there is always a risk of a relapse as the result mainly of internal political pressures.

However quixotic and arbitrary some of Mr Papandreou's foreign policy moves hava appeared to uninitiated foreign observers, they become more explicable in the light of Greece's post-war history.

Suspicion

PASOK's Socialist ideological leanings, which often make the Government adopt an excessively tolerant attitude towards the Soviet Union and its allies while treating the US and the West in general with extreme suspicion, have much deeper roots in Greece than just the Marxist manuals.

Anti-Western feeling has been nurtured both by the sometimes heavy-handed intervention by the US in Greek affairs and the failure by the NATO countries either to stop the Turkish invasion of Cyprus in 1974 or, subsequently, to force the Turks to withdraw their troops. Not least, most Greeks feel that the US and the other western countries adopted a much too accommodating attitude towards the widely despised regime of the military junta, which seized power in April 1967 and ruled the country until 1974.

Mrs Margaret Thatcher, Britain's Prime Minister, with Dr Papandreou, whose foreign policy appears to have taken a more realistic turn since last summer.

It was hardly surprising, therefore, that there should be a backlash following the overthrow of the Colonels' regime which was fully exploited by Mr Papandreou and his party. PASOK produced a heady cocktail by mixing its radical ideology with popular conceptions about Greece's betrayal by the West and the heightened nationalism resulting from the Turkish invasion of Cyprus.

Mr Papandreou's philosophy of the immediate post-junta period was summed up in the following statement: "It has become clear to the Greek people that popular sovereignty cannot be conceived outside the realm of national independence. This is why Greece's disengagement from Nato and tha US constitutes the first and immediate aim of our movement. Our national independence is the precondition for popular sovereignty."

Though Mr Papandreou has been obliged to pour a lot of water into his retsina over the past few years—Greece is still a member of Nato and the EEC, the US bases are still in Greece and war has not been declared against Turkey—the principle of national independence continues to be the motor of Greek foreign policy.

Somewhat like General da Gaulle in France during the post-war period, Mr Papandreou's aim has been to restore his nation's pride and self-confidence by adopting a highly idiosyncratic stand in international affairs and by attempting to break the embarrassing "patron-client" relationship with tha US.

Many believe that he could have achieved the same result without breaking so many glasses and without the constant contradictions and about-turns that have marked Greek foreign policy. But such judgments tend to underestimate the very real domestic political pressures with which Mr Papandreou had to contend.

A wily politician if ever there was one, Mr Papandreou has always been careful to keep the influential and vocal left wing of PASOK well-fed with crumbs from his ideological and rhetorical table in order to secure his power base.

Similarly, though not dependent on the parliamentary support of the KKE pro-Moscow Communist party, he has gone out of his way to keep the Communists reasonably happy on foreign policy issues to prevent them from disrupting the economy by industrial strikes.

The dual requirement of conducting a realistic foreign policy while keeping the radical left from rising up in protest has been the main reason for Mr Papandreou's disconcerting habit of speaking with two voices—one aimed at moderate domestic and international opinion, the other at radical militants.

When seen in this light, the Papandreou Government's reluctance to condemn the regime in Poland after the imposition of martial law, its warm support for Soviet nuclear disarmament policy, its endorsement of the plan for a Balkan nuclear-free zone and its astonishing refusal to condemn the shooting down by the Soviet Union of a Korean Jumbo jet in 1983, do not appear quite so perverse. Political expediency, especially in Greece, has its own rules.

There are several reasons why, since PASOK's re-election last summer, Mr Papandreou's foreign policy appears to have taken a more realistic turn. One of the most important considerations has been the country's economic plight, which will absorb most of the Government's energies during the next two years and require as much foreign financial aid as can be mustered.

Greece desperately needs both the loans provided by the EEC and the \$500m annual military aid given by the US for the modernisation of its forces, an essential requirement for an effective defence against the perceived threat from Turkey. In present circumstances, a foreign policy with too much of an anti-Western bias can only undermine the willingness of Greece's allies to buttress its economy.

Strategic considerations are at least equally important. If the Papandreou Government carried out its original threat, expressed in much more muted terms recently, to terminate the agreement on US bases in Greece when it comes up for renewal in 1988, Washington might well decide to move them to Turkey. This would dramatically alter the strategic importance to Nato of Greece and Turkey in favour of the latter and probably deprive Athens, not only of much-needed funds, but of essential military equipment.

Last but not least, the US, which has not always in the past reacted as sharply as it might to Mr Papandreou's whims, bas latterly shown its teeth, to the great discomfiture—not to say surprise—of the Greek Government.

The Reagan administration's "travel advisory" warning Americans not to go to Greece, issued last summer after the hijacking of a TWA airliner to Beirut—the result, it was alleged by Washington, of lax security arrangements at Athens airport—has had a dramatic impact on Greece's tourist earnings.

All this goes to show that Greece cannot afford to alienate the US too much and that Mr Papandreou will probably try to find an accommodation with the US on the bases, possibly involving the closure of only one of them on the outskirts of Athens, which will satisfy both Washington and his PASOK supporters.

Improvement

The recent approval by the US of the long-delayed sale of 40 F-16 fighter aircraft to Greece certainly foreshadows a happier bilateral relationship between the two countries. But whether the expected improvement extends to Greece's relationship with the NATO alliance as a whole depends entirely on the breaking of the deadlock in Greek-Turkish relations.

The continued occupation by Turkey of the northern part of Cyprus, the bitter disputes between Greece and Turkey over control of the Aegean airspace, the continental shelf off the Anatolian coastline and the militarisation of the Greek island of Lemnos, is a constant threat not only to peace in the region, bnt to the cohesion of NATO's south-eastern flank.

The enmity between the two countries is such that there is virtually no dialogue between them at present. No-one in Athens or Ankara is in any doubt that if the situation is to be unblocked, a solution of the Cyprus problem is an essential pre-condition. But for that to happen, the US will have to adopt a much more active role than it has in recent months to push the various protagonists to the negotiating table.

The efforts of Mr Perez de Cuellar, the United Nations Secretary General, alone, are unlikely to be sufficient to settle this critical issue, which bas led Mr Papandreou to brand Turkey as Greece's main enemy and wbich remains the biggest thorn in Greece's flesh.

The Greeks believe they have played the Community game with skill and guile in the past five years. Greece urgently needs EEC loans.

Love-hate relationship

Attitudes to the EEC

QUENTIN PEEL AND ROBERT MAUTHNER

THE PASOK Government's progressive change of mind about the desirability of EEC membership has nothing fortuitous about it. If Mr Papandreou could tell the Greek Parliament last December that Greece's withdrawal from the Community would be "catastrophic," that judgment was based firmly on his evaluation of the national interest rather than a conversion to the ideology of European unity.

Convinced with reason that Greece's backward economy could not, for the moment, face the competition of its much more advanced European partners, Mr Papandreou and his Ministers have been won over to Europeanism as much by the sweet sound of the Brussels cash register as by anything else.

The Government's philosophy has always been that the gains made by the richer members of the Community thanks to free trade must be paid back proportionately in cash to the poorer members, in order to increase their investment capacity and competitiveness.

The Greek Government'a interpretation of the Community concept of "convergence" or "cohesion" appears to be somewhat different from that of the northern members, such as West Germany, France and Britain. For the latter, "convergence" means at least partly e progressive harmonisation of economic policies. For Greece, it means a narrowing of the gap between the richest and poorest economies, and little else.

The semantic argument may never be settled, but in practice, the Greek interpretation appears to be in the process of implementation rather more rapidly than the northern definition. Net transfers to Greece from the Community's coffers hit the Ecu 1bn mark in 1985 and the so-called Integrated Mediterranean Programmes IMPs are scheduled to provide Greece with double that sum over the next seven years.

The Greeks believe that they have played the Community game with skill and guile. But after five years of EEC membership, their image in Brussels is still scarcely complimentary.

Whatever the subject under discussion, whather it be removing barriers to trade or implementing farm policies, the presence of Greek negotiators is regarded with some trepidation: they are expected eithar to demand an exemption from Community rules, or to insist on more money.

Threats

The picture that sums it up is that of Dr Andreas Papandreou, the Prime Minister, thumping the table at the summit meetings in Dublin, Brussels and Milan, threatening to block the membership of Spain and Portugal, or negotiations for EEC reform, if he did not get a better deal. For sheer stubborness and perverseness, his image in Brussels is even worse than that of Britain's Mrs Margaret Thatcher.

Yet there are signs that the picture could be changing, and that Greece will no longer be the odd man out in EEC affairs—or at least not to quite the same extent.

Four significant events of the past 12 months seem certain to have an important effect on the love-hate relationship: the accession of Spain and Portugal; the establishment of the Integrated Mediterranean Programmes (Imps); the agreement on a Ecu 1.75bn balance of payments loan for Greece; and planned reforms to the Treaty of Rome.

The enlargement of the Community from 10 members to 12 on January 1 means at the most basic level that Greece is no longer the most junior member with the most immediate problems of transition to be overcome. More importantly, it will mean a real strengthening of the southern, Mediterranean lobby in the Community.

Italy, Greece, Spain, Portugal, and southern France, may all be competing for the same cash from the Community, but at least they all have a common interest in ensuring that EEC policies take their needs into account. Hitherto, the Common Agricultural Policy has benefited northern farmers more than southerners, and northern products such as milk and cereal constitute the big spending areas. Fruit, vegetables, wine and olive oil are all set to catch up.

The enlarged Community will also be one where the countries of the periphery — not only in the south, but also Britain, Denmark and Ireland to tha north — will have a stronger say in efforts to boost regional development and counteract the centripetal tendency of economic growth in the EEC to date.

The EEC reform package agreed by heads of government at Luxembourg in December, which includes a stronger commitment to "reducing the disparities between the various regions, and the backwardness of the least favoured regions" in itself will not automatically mean more money for Greece—as Athens had sought to ensure. But it does give the member states a commitment to reorganise their social and regional funds with a clearer focus on the problems of the most backward regions. Certainly, Greece cannot lose from such an exercise.

What should produce more immediate cash benefits is the deal finalised last March to put some Ecu 6.6bn over seven years into the backward regions of the Mediterranean through the Imps, Greece in particular is guaranteed Ecu 2bn.

Perhaps the most important even of the past year, at least in psychological terms, for relations between Athens and Brussels, was the negotiation and ultimate agreement in November on the Ecu 1.75bn six-year loan package to support the Greek balance of payments.

Solution

For Greece, the deal was important because it spared the Government the politically unecceptable alternative of turning to the IMF for cash. It showed that the EEC could be a really valuable partner in times of difficulty.

Officials in Brussels regard tha negotiations as something of a watershed, with a degree of give and take on both sides which had not previously existed.

On the negative side, from the Community point of view, Greece was granted yet another delay in introducing value added tax (in addition to the two-year extension granted from January 1 1984).

The austerity measures include the imposition of import depositts certain to hit trade with other EEC member states. A complex regime of export subsidies, and tha existing state oil monopoly have won a stay of execution.

On the other band, Greece is now committed to phasing out the export subsidies to coincide with the introduction of VAT on January 1 1987. The import deposits were discussed, altered after negotiations, taking many arguments from the European Commission into account. And the whole loan package is very clearly in two parts, with a review of progress after 12 months. Good (economic) behaviour is required.

The hope in Brussels is that the combination of all the circumstances of 1985 will combine to make Greece a more committed member of the Community.

On the political front, there is littla doubt that Athens will still seek to pursue a more independent line. But equally, Greece's EEC partners are conscious that they have made very real concession's to Greek demands, and that Greece is now a hefty net recipient from EEC funds to the tune of more than Ecu 1bn a year.

On that score, they are likely to show less sympathy in the future for making Greece a special case for treatment.

Competitiveness remains elusive

Industry
ANDRIANA IERODIACONOU

AN ATMOSPHERE of restlessness pervades the ranks of Greek industrialists at what they see as Government failure to carry forward measures needed to boost the competitiveness of the country's manufacturing sector.

The results from Greek industry over the past four years tell the story in bleak terms. More than 40 per cent of the country's 3,000 industrial companies have been showing net losses on their annual balance sheets, with losses exceeding profits each year for industry as a whole. The return on shareholders' equity plunged from a peak of 8 per cent in 1979 to about −6.5 per cent in 1984, with the negative trend continuing in 1985.

For the past five years, annual industrial production has declined by about 1 per cent and the volume of production in 1985 is estimated to have been lower than in 1979. For the past decade, productive investment in manufacturing has stagnated, reaching lower levels in 1985 than in 1972 in real terms.

A Government economic stabilisation programme was announced last October, and was welcomed in the first instance by the Federation of Greek Industries (SEB) as a "positive step" towards creating a more favourable environment for industry.

The 15 per cent devaluation of the drachma was expected to improve export performance in the short term. The tight incomes policy imposed to the end of 1987 was welcomed too both because it would slow down the increase in labour costs—the labour cost per unit of production has trebled since 1980—and as a step towards combating double-digit inflation rates, three to four times higher than the European Community average.

Government delays in unveiling a promised set of supplementary measures designed to improve competitiveness in the long term is now attracting criticism. As early as November, SEB put forward a list of proposals which included,

- Bigger cuts in public spending.
- A reduction in the role of the public sector in the economic life of the country for example through the privatisation of some services.
- The dismantling of the existing system of price controls.
- A reduction of indirect taxes, said to burden production costs heavily, through the early introduction of Value Added Tax.
- The linking of salaries and wages to productivity and
- Measures to lower the cost of capital for industry.

In the absence of such supplementary measures, industrialists are gloomy not only about the prospects for 1986, but also for the longer-term future.

Researchers at the Institute of Industrial Research, (IOBE), an Athens private non-profit making organisation, point out that beyond what Government measures are or are not implemented, the nature of Greek industrial production itself makes for low external competitiveness. They therefore question the practicability of the Government's stabilisation programme, which hopes to generate an export-led recovery while suppressing domestic demand through a restrictive wage policy.

"It is all very well to say that exports should lead development, but Greece produces the wrong things at the wrong prices. There is also the question of packaging, quality and promotion. If domestic sales fall by 2 per cent we calculate that exports would have to go up five to six times to compensate," says one IOBE official.

In its 1985 economic report on 28 countries, the Swiss-based EMF Foundation found that Greece ranked first in terms of the tendency to import with a factor of 9.2 compared to an EEC average of 0.9. It figured last, however, in competitiveness, where countries were graded on 10 factors ranging from socio-political consensus and stability to the overall dynamism of the economy.

Greek National Statistical Service figures for the first 11 months of 1985 showed a 61 per cent widening of Greece's trade deficit in US dollars, compared to the same period in 1984. Imports in dollars went up 17.7 per cent and exports down 6.4 per cent.

In the institute's view, Greece lacks the infrastructure, including manpower and research and development resources, to make the switch to high-technology industry, the Government's vision for the future. The sectors doing well are traditional ones such as food and beverages, non-ferrous metals, and clothing and footwear.

"The idea shouldn't be to make computers in Greece, but to use computers to make better tomato paste," according to IOBE. Hardest-hit sectors include all construction-related materials and ship-building; textiles and leather are among those expected to be most affected by Spanish and Portuguese accession to the Community.

On investment, industrialists concede that the problem does not lie in a lack of incentives, a point which the Economy Ministry never tires of making.

Law 1262, introduced by the Socialists in 1982, offers direct grants, untaxed allowances and high depreciation rates. Grants are free for smaller-scale projects while the rate approved ranges from 10 per cent to 50 per cent of project cost depending on the type and location.

Development in provincial areas, as opposed to Athens, in the environs of which about two-thirds of Greece's industry is concentrated, is particularly encouraged as are high-technology projects.

Foreign investors are reminded of Greece's advantageous geographical location between Europe and the Middle East, and its good air connections to both regions. A glossy booklet advertises that the Government "is actively seeking investments from foreign sources on a mutually profitable basis."

Neither domestic nor foreign investors have responded actively to law 1262, however. According to Economy Ministry figures private fixed capital investment declined by 1.3 per cent in 1985.

"I don't even get inquiries any more, although with nothing stirring this in fact would be a good time to enter Greece as a foreign investor and strike an advantageous deal with the government," says one foreign banker in Athens.

PROFILE: HELLENIC AEROSPACE INDUSTRY

Holding its own in export markets

"A MODERN aircraft is a high-technology microcosm: hydraulics, metals, electronics, composites, it's all these and it's all state-of-the-art, we could feed badly need technological know-how in a wide range of areas to the whole of Greek industry," says Mr Panayiotis Fotilas, managing director of the Hellenic Aerospace Industry (HAI), as he looks into the future of one of Greece's more successful industrial enterprises.

HAI, the leading right light in the Greek state arms industry, is one of the few companies which fulfils the Socialist Government's ideal of a high technology enterprise, able to hold its own against tough international competition.

HAI's $400m plant, one of the single largest industrial investments in Greece began operating in 1979 with managerial and technological help from Lockheed International. The contract with Lockheed was terminated early, two years ago by the Socialist Government, in an overt bid to "hellenize" the company. Mr Fotilas testifies that today HAI, which employs 3,200, is all-Greek and proud of it.

The company saves the Greek state millions of dollars in vital foreign exchange annually, by handling the repair and maintenance of the Hellenic Air Force, and, to a more limited extent, the national carrier Olympic Airways.

In addition, HAI overhauls, repairs and maintains a range of aircraft types from client countries both in the west and in the Middle East—success in the latter market being partly owed, company officials say, to Greece's close ties with the Arab world.

Repair and maintenance contracts include Nigerian, Jordanian and Canadian Hercules C-130 transport aircraft. HAI also handles J-79 engines both for the United States Air Force in Europe and, under a five-year, US$6.5m contract signed in 1985, for Britain's Royal Air Force.

HAI: one of the few high technology enterprises in Greece that is winning orders against tough international competition.

"We're particularly proud of this contract, both because it's the first time the RAF farms out a job of this kind and because we secured it against tough European competition," says Mr Fotilas.

Through contracts with France's Dassault and Snecma, HAI operates as a repair and maintenance centre for Mirage F-1 and ATAR engines. Electronics work includes the repair of Sidewinder and Hawk missiles for Greece and Nato. HAI also runs a training programme for about 30 students, mainly from the Middle East.

The fact that the company is a successful foreign exchange earner and saver, compensates, company officials say, for annual losses, which they are in any case proud to have trimmed down to Dr 22m from Dr 1.3bn between 1982 and 1984.

The company's overall short- and long-term foreign debt has also been halved in that period.

Ending the Lockheed contract early—over which a court case is still in progress in which each side is pursuing claims "of the order of millions of dollars" from the other—has saved an estimated $300m a year in salaries.

HAI's next goal, formulated with a weather eye on neighbouring Turkey's preparations for F-18 Phantom assembly under a deal with General Dynamics, is to expand its manufacturing activities as far as possible.

For the moment the company is limited to parts manufacture, including airbrakes for the Mirage-2000, Airbus door-frames, and, under an $1.2m starting contract signed in December with British Aerospace, flap assemblies for the new advance turbo-prop (ATP) airliner.

HAI is looking forward to a quantum leap in this field following a 1985 agreement for the purchase by Greece of 40 French Mirage-2000, which includes provisions for the manufacture of a number of parts locally.

An agreement finalised in January for the sale of 40 GD F-16 jets to Greece is also expected to provide parts manufacture work for HAI. Aircraft assembly is not on the cards for the moment, however: the fact that two aircraft types are involved would stretch HAI's resources beyond their present limits.

"My dream for HAI is the year 2000? To see us launching an HAI light trainer aircraft, competitive on the international market," says Mr Fotilas.

Andriana Ierodiaconou

Big boost for farmers

Agriculture
ANDRIANA IERODIACONOU

GREEK FARMERS have never had it so good. As Dr Andreas Papandreou, the Prime Minister, stressed with some pride in Parliament recently, incomes in the farming sector have gone up by about 12.7 per cent in real terms since 1981, the year which saw both Greece's accession to the European Economic Community and the coming to power for the first time of the Socialist Party.

By contrast, in the three years leading up to 1981, agricultural incomes had decreased by 1.3 per cent.

This new-found prosperity can largely be traced to favourable EEC prices. According to the most recent Agriculture Ministry figures, the average producer in 1984 enjoyed price increases of 20.3 per cent, against an increase in costs of 14.9 per cent.

The Socialist Government has also contributed to prosperity by more than trebling pensions to men farmers from Dr 2,000 to Dr 7,000 and introducing the novelty of an independent pension for farmer's wives.

While Greek farmers are doing well, the same is not necessarily true of Greek farming, however.

Productivity remains low: while 29.4 per cent of the active labour force is employed in agriculture, the sector contributed 18.5 per cent to Greece's GDP in 1984. The annual rate of growth of agricultural output has slowed down markedly from about 2.5 per cent in the 1970s, to about −1 per cent.

This partly reflects structural problems. Just under half of Greece's arable land is classified as mountainous or semi-mountainous, and only 29 per cent is irrigated. Holdings tend to be scattered and much smaller than the EEC average.

Land reform, say Greek officials, can only be a slow process achieved as Greeks turn from farming to other economic activities and turn their holdings over to rented use by neighbouring farmers. An attempt by the Socialist Government to set up a dynamic co-operatives system to promote production, processing and marketing has so far failed to get off the ground, partly through a lack of experienced management.

Like Greek indsutry, agriculture also proved vulnerable to EEC accession, which led to high import penetration and e weak export performance. Low quality of processing and marketing are standard complaints from Greece's community trading partners.

The agricultural trade balance with the EEC, positive before 1981, plunged into a deficit of Dr 10.583bn in the first year of accession which virtually doubled in 1982. The trend was reversed in 1983 and 1984, with the deficit trimmed to Dr 5.906bn by the end of the latter year. However, national statistical service figures for the first six months of 1985 show an alarming turnaround, with a January to July deficit of Dr 21.4bn compared to Dr 2.1bn in the same period the previous year.

Greek officials are putting a brave face on the effects of Spanish and Portuguese entry to the community on farm trade.

"We don't expect a dramatic effect for the simple reason that the Spaniards, the main competitors, have been established in the EEC markets for some time before accession," says one, "and we just have to become more competitive."

On the bright side, net EEC transfers to the Greek agricultural sector have been on the increase since 1981. Transfers from the guarantee section of the EEC's agricultural fund increased tenfold between 1981 and 1984, reaching Dr 88.454bn. The fund transfers for structural improvements in agriculture, including infrastructure projects for marketing and processing and modernisation of production, as well as a support programme for 22 mountainous and underdeveloped provinces, amounted to Dr 24.556bn between 1981 and 1984.

Ship-owners hit hard

Shipping
ANDREW FISHER

IT HAS been the deepest and longest slump in living memory. Throughout the 1980s, world shipping has suffered acutely from the heavy surplus of tonnage in key sectors of the industry and there are no signs of an early end to the distress.

Along the Akti Miaouli on the waterfront of Piraeus, near Athens, the gloom is all too apparent. For Greece's large shipping industry has shrunk alarmingly in recent years. No longer do Greek shipping tycoons present an enviable picture to the world of endless riches and luxury.

Certainly, wealth is still there. But Greek owners do not feature flamboyantly in the world's gossip columns. It was some three and a half years ago that Mr Aristomenis Karageorgis, then president of the Union of Greek Shipowners, lamented in Athens: "Sad to say, the time of the golden Greeks is past."

It is recession and rock-bottom freight rates that have made the life of a shipowner financially so precarious. Back in 1982, Mr Karageorgis felt the industry still offered some chances for profit.

"But it can no longer, if indeed it ever could, make millionaires overnight," he says.

For the current president of the owners' union, Mr Stathis Gourdomichalis, the task is to try and persuade the Government to ensure that the industry does not sink altogether. On the industry's behalf he has asked Prime Minister Andreas Papandreou for a freer labour and tax regime.

As many as 450 ships left the Greek flag last year, compared with 311 in 1984. Mr Gourdomichalis spoke of "foreign exchange and employment suicide" in describing what he saw as the obstacles in the way of the industry.

So the industry has requested a two-year freeze on tax rises and the restoration of the law aimed at saving on crew costs by reducing manning by two or three people and lifting the proportion of foreign crew members from 25 to 30 per cent. This legislation expired in October.

The shipowners are also opposing a draft bill which could boost their contribution to the seamen's pension fund by 3 per cent. The fund is believed to face a deficit of some Dr 22bn ($147m).

Although the crisis in shipping is international, with successive surges of new ordering first of tankers, then of bulk carriers, and latterly of container ships, prolonging the agony, Greece is among the countries hardest hit.

The Greek merchant fleet is the largest in the EEC and has traditionally operated in the tramp business, taking cargoes anywhere customers requested. It is heavily oriented to the dry cargo market, among the hardest-hit recently, and to tankers, with some interests in cruises.

Greek shipowners are not major owners of liner (scheduled service) vessels, now mostly containerised. But a heavy blow to the standing of the industry came just over two years ago when Hellenic Lines, headed by Mr Gregory Callimanopulos, collapsed after banks grew impatient with its default on debts.

Hellenic was the country's only big liner company and had been through a $320m expansion programme, building up services between the US, Mediterranean, Middle East and Asia.

But its demise was not the end of the presence in shipping of Princeton-educated Mr Callimanopulos. His bulk shipping and tanker company, Trade and Transport, was unaffected.

The decision of Morgan Guaranty, the US bank, to pull the plug on Hellenic was an early instance of how tough banks have become as shipping's malaise has worsened rather than recovered. Some bankers reckon the action marked e watershed between banks' previous willingness to nurse most clients through hard times and their current reluctance to make new shipping loans at all.

Because of the privately-owned and family-held nature of Greek shipping companies, banks find it harder to probe into their financial strengths and weaknesses than they do in many other countries.

But while the banks have certainly lost money in the Greek industry, the really spectacular difficulties in the past year have occurred in Japan, with Sanko's bankruptcy, and Hong Kong, with the debt problems of the Tung group.

Nowhere is shipping an obvious magnet for entrepreneurs. For every three new companies that set up on the bustling Piraeus waterfront, four close down. Ten years ago, before oil crises knocked the bottom out of the tanker market and over-ordering hit bulk carrier rates, four companies were starting up for every one going.

With a possible $70bn on loan by banks around the world to the shipping industry, much of it now at risk, finding funds for new companies is tough.

Architecture/Colin Amery

Chronic uncertainty in Bath

There is no doubt that the British are far too cavalier and unconcerned about their architectural heritage. Although there has been some improvement on the appalling days in the 1960s, when the fatal combination of planners and developrs set about destroying as many town centres as possible, there are still worrying lapses and no signs of emergence of informed public opinion that will fight for an improvement in architectural standards.

The City of Bath in what was Somerset and now endures the name of Avon is a good example. Bath is a city of such architectural distinction and quality that it ranks as a place of European importance — one of the centres of 18th-century architectural culture. It was only the actions of enlightened laymen in the early 1970s that saved Bath from the destructive plans of traffic engineers and architects.

Terrible scars were, however, left. The view of Robert Adam's superb exercise in classical politeness, the Pulteney Bridge, was viciously ruined by the erection of the Beaufort Hotel (architects Snailum, LeFevre and Quick). The demolition of Southgate Street and its replacement by the ghastly shopping centre designed by Owen Luder (who was later to become President of the RIBA) remains an appalling scar. And everywhere, when e Georgian building was demolished it was replaced by some stone-faced, castrated version of the worst sort of neo-Georgian.

One huge eyesore remains. When the Beaufort Hotel went up, the council decided that the banks of the Avon were the perfect spot for multi-storey car-parking. On top of the "podium" of this car park the city had always intended to sponsor new law courts. A design, good of its kind, was prepared by Leonard Manasseh and Partners but not executed. Today, the council is anxious to build on this site, and e *limited developers' competition* has produced a candidate.

The scheme on display in Bath for public consultation is by architects Atkins Sheppard Fidler working for a developer to provide shops, a public library, and other facilities, including extra rooms for the hotel. The architects have been adaptable and accepted advice offered by architect Donald Insall working through the City to help make the new proposals more appropriate to Bath.

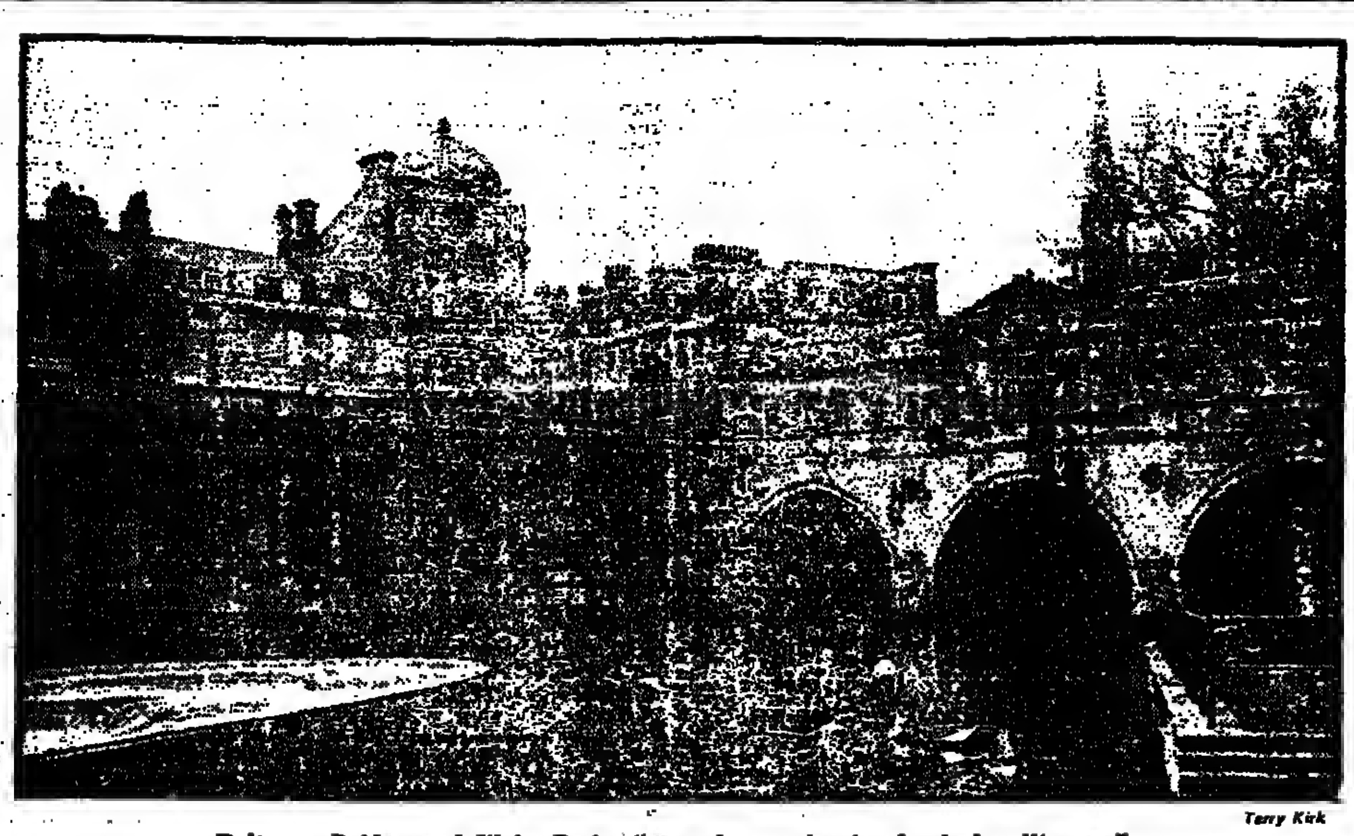
The solution shows how difficult it is to build well in any idiom in a *classical* city. The result, which may well get planning permission, has some good elements. It attempts to conceal as much of the hideous podium as possible. It steps down to the Avon in a series of terraces that lessens the impact of the car park, and it has an axial relationship that links up with the river. But it is still too boxy and suffers from chronic architectural uncertainty.

Stylistically, this new podium building knows no precedents. It knows that it is in Bath and so makes some rather obscure gropings towards classical elements. Arched windows on the library and a wobbly colonnade on Northgate Street with some tentative *oeil-de-boeuf* windows are mere gestures towards a style.

Bath is still a coherent, *mellow*, residential city with a strong classical tradition. This crucial site at its heart demands the highest architectural standards. The city fathers, if they are up to it, should demand the removal of eyesores that have ruined Bath and should commission someone of quality like Leon Krier to prepare an urban/architectural plan for the whole city.

The two John Woods, who made Bath, would understand that the city needs a grand and thorough reappraisal—on visual grounds. It is possible for Bath to commission a new plan and a new programme of gradual development that would make the city more beautiful, that would understand the references of the classical past and would see the point of making Bath the new Arcadia of the 21st century.

Instead, the city fathers are content to fill holes in the city fabric as though they were dentists.



Terry Kirk

Pulteney Bridge and Weir, Bath—"superb exercise in classical politeness"

South Bank Board's 'adequate subsidy'

The South Bank Board, which takes control of London's arts complex on the Thames on April 1 after the demise of the GLC, will receive from the Arts Council most of the money it asked for.

Mr Ronald Grierson, chairman of the board, said in October that he would need £8.5m a year to run the complex and another £3m for maintenance work. The Arts Council is likely to announce later this month that the South Bank will receive just over £8m for administration in 1986-87, but less than £1m towards the planned refurbishment programme.

The money should ensure that the new management gets off to a good start. The GLC has allowed The South Bank Board access to the running costs of the Festival Hall, the Queen Elizabeth Hall and the Purcell Room only in the last few weeks, but the figures proved a pleasant surprise and slightly less than the board imagined.

The board also thinks that maintenance work on a new heating and ventilation system for the Festival Hall is not as crucial as was feared so thet it can survive on less than requested. The board plans to complete in three months en assessment of maintenance expenses over the next three years in the hope of squeezing more long-term cash from the Arts Council.

The South Bank Board is financed only to maintain the status quo. Its plans to brighten up the gloomy, concrete atmosphere of the place depends on private funding. The ambitious Farrell Plan, which envisaged removing the overhead walkways and installing a translucent roof to unite the three concert halls, awaits an arts-loving business sponsor (Sainsbury?) although there are hopes that, in a year's time, a start will have ben made on knocking down the worst of the walkways and installing a roof to cover the entrances to the three *halls*.

The public should expect no immediate changes on the South Bank from April. The *Festival Hall is* booked solid for the next two years with a programme little different from its traditional format of mainly orchestral concerts. But the two smaller halls have many free dates, and Mr Nicholas Snowman, the artistic director, is looking at ways of introducing more exciting programmes based around themes and festivals.

The South Bank Board has limited resources for promoting its activities, although it will continue with the GLC's innovations such as Thames Day and the Summer Festival. Its first promotion takes place et the Festival Hall on May 3 when it will hold a celebratory concert to commemorate the 35th anniversary of the hall. It has the goodwill of its neighbours on the South Bank—in the National Theatre, the National Film Theatre, and the quickly developing Museum of the Modern Image, plus the four big orchestras—which support its plans to bring more cohesion and synergy to the activities that resound there every night.

The achievement of the South Bank Board in ensuring adequate *subsidy* means more problems for the Arts Council in its task of distributing £25m of government money between the clients of the disappearing Mets. The Government may have given the Arts Council £9m more than it originally proposed but the sum is still £10m less than the council needed.

Hence the row over Sadler's Wells and the other "receiving" theatres. They did not in the past receive Arts Council cash, and the council is reluctant to take on expensive new clients when its policy is to decentralise its activities to regional arts associations and give to tha new and promising at the expense of the old and mundane.

The Arts Council hopes that a show business millionaire such as Andrew Lloyd Webber will buy Sadler's Wells with its great name and solve the crisis.

It is negotiating wtih successor councils in other parts of the country, hoping that they will increase their aid for the arts.

Antony Thorncroft

The Magic Flute/Coliseum

Max Loppert

Jonathan Miller's first-ever *Flute* production, which originally belonged to Scottish Opera, has now been taken over by English National Opera. Miller's basic conceit is an extraordinary one — the 1790s dream of the triumph of Enlightenment over the dark forces of Church and State that comes to a young scholar who has nodded off (during the overture) in the massive, book-lined spaces of Philip Prowse's endlessy fascinating *Bibliothèque Nationale* setting.

As I wrote here after the 1983 Glasgow première, it is surely "one of the most thought-provoking visions of the opera that most of us will ever have had"; but at the same time I couldn't help taking it as, for the most part, "a production of a sheaf of erudite and highly subtle *Magic Flute* footnotes, rather than of the actual opera," nor could I help regretting its coldness, overriding intellectual self-importance, most of all its apparent funlessness.

Tha new London presentation doesn't conclusively settle all those doubts and criticisms. It is hardly the *Flute* to persuade the widest possibla audience that of all the most profound operas this is one of the most physically enthralling. Trials by fire and water are scrapped; moments of naive delight provided by chasms, waterfalls, and animals (here artfully stylized, in contrast with those of *Anthony* Besch's sadly-missed ENO *Flute*) are made rigorously "grown-up." Either Miller deprecates Mozart's sense of child-like wonder, or else he simply lacks it.

Yet for all that, Friday's show provided many ripe and smiling pleasures. Whereas the Glasgow première had been a rather frosty, tentetive occasion, sluggishly played and mostly undersung, in London there was produced a happy blend of musical, vocal, and theatrical distinction. In Glasgow, Benjamin Luxon's West *Country Papageno* had creeted a reliable point of light amid the encircling pallor; at the Coliseum he gives a no less *winning* account of himself—timed with the resources of a seasoned comic, sung with great (but never self-conscious) beauty and delicacy—but now we can praise him as *primus inter pares* rather than as single saving grace.

Everything, indeed, comes across with greater confidence, greater directness, far more theatrical light and shade than I *had believed* possible; and so, because once again a "partial" presentation engages its company whole-heartedly, light is shed upon odd, unforgettable corners of the great work.

Maldwyn Davies (Tamino) sings with long breath, glowing *tone, and supple* line; Sean Rea (Sarastro) likewise. The sobriety of the scene sets these two usually somewhat stiff actors in unexpectedly clear outline. In the case of Susan Bullock, who makes here a gloriously encouraging professional first appearance as Pamina, the backdrop enhances a vigorous, warmly human portrayal, itself aided by enormously promising way the voice has, at its best, of surging into the large theatre with ease and freedom (the company has here an Elisabeth or Elsa in the making).

Nan Christie, by no means a "natural" for the Queen (but has the right voice for this part ever existed?), uses the Maria Theresa costume to work up e wholly unforeseen amount of dramatic agility and cutting edge. Ladies (Slorach, Squires, Owens), boys (ladies, actually, but unembarrassingly so — Bovino, Lilleystone, Moll) and the cherishably clubable temple servants (Stuart Kale, Mark Richardson) expand broadly and very successfully within Miller's frame. Only tha curious and unhelpful Toussaint-like character given to Monostatos continue to seem a *production quirk, in spite* of Alan Woodrow's forthright discharge of the task.

The key to the whole performance is to be found in Peter Robinson's unhurried, ample, extremely musical conducting. On Friday the dialogue with the Orator (Norman Bailey) went dull, *more sermon* that dramatically cross-cut accompanied recitative, but for the rest the gentle sureness of the musical direction proved to be exactly what this production needs.

Alastair Muir

Susan Bullock

Faust/Covent Garden

Max Loppert

Comparisons are unfair and unkind, everyone knows, but sometimes the need to make them becomes overwhelming. Thursday's Royal Opera revival of Gounod's *Faust* was one of those occasions. In itself it proved to be a very middling "house showing" of what was, even in its original estate (in 1974), a notably unimpressive production; but, following as it did the recent English National Opera *Faust*, it was made to seem twice as dreary and purposeless *as it might otherwise* have done.

The ENO, after all, had given a brilliantly engaging and sparkly new look to the whole piece (including its performing edition). At Covent Garden one was bound therefore to be that much harder on something as patently and routinely old-look as this—Michael Rennison, taking over John Copley's staging, is supposed to have revised some of the activities (and settings) in the last two acts, but his effect was minimally helpful, when not simply imperceptible.

The supposed special advantage of the Royal Opera system is its provision of singers of "international excellence." On Thursday, with a roster containing a Welsh Faust, a Romanian Marguerite, an American Mephistopheles, a German Valentine, and an English Siebel and Martha, this advantage was clearly not that of exact French style, or indeed diction.

Only the conductor, Michel Plasson, was French. He is a musician of proven ability, but he seems to have been allotted insufficient rebearsal time, to judge from a reading slow, heavy, roughly played, often out of focus; only the occasional happy passage—the start of Act 5, for instance—was there to suggest the *Faust* that he could give up in more propitious circumstances.

So the pleasures, such as they were, came patchily. At least whenever Samuel Ramey's lissome, witty, elegant devil was on stage, they came in profusion, for his sense of style and wonderfully keen, compact singing (a Serenade splendidly true of line and unspoiled by "traditional" snarls was its high point) were all of a piece. Stuart Burrows, *Faust as* in 1974, sings agreeably (better, I think, than 12 years ago) but creates no impression on the stage, apart from a pleasant intimation of avuncular nature.

Nelly Miricioiu, a fascinating, vibrant, performer in the correct repertory, *is miscast* (and ill-wigged and unflatteringly dressed) as Marguerite: It is by no means a performance without interest, but charm and sweetness form no part of it. Judith Howarth's Siebel is pretty, Nuala Willis' Martha (house debut) amusing, and as Valentine Andreas Schmidt (British debut) discloses a most beautifully formed high baritone of a kind not really suited to Gounod. Is all this too hard? Maybe, but we have recently learned, to our good fortune, that there is more to *Faust* that the Royal Opera is prepared to let on.

Arts news in brief . . .

The National Theatre has won five of the ten awards given by Drama Magazine. Alan Ayckbourn's *A Chorus of Disapproval* was voted best new play; William Dudley, best designer for *The Mysteries* and *The Real Inspector Hound/The Critic* (as well as for the RSC's *The Merry Wives of Windsor* and *Mutiny!*); Imelda Staunton, best supporting ectress for her work in the Ayckbourn as well as in the Old Vic *The Corn is Green*; Anthony Hopkins, best actor for *Pravda* (shared with Gary Oldman in *The Pope's Wedding* at the Royal Court): and Bill Bryden, best director.

*

Robin Ray's musical biography of Puccini, *Café Puccini*, opens at Wyndham's Theatre on March 3. The cast includes Lewis Fiander, Nichola McAuliffe, Charles West, Terence Hillyer, Jacinta Mulcahy and Maurice Clark. The director *is Christopher Renshaw, the* designer Tim Goodchild, the musical director William Blezard.

*

Richard Ormond, 46, has been appointed director of the National Maritime Museum in Greenwich, London. He joined the museum in 1983 and is at present head of the gallery's pictures department and curator of the Armada Exhibition planned for 1988. He will take up his new appointment on March *10, replacing Dr Neil Cossons.*

The Happy Haven/Leeds

Charlotte Keatley

The Happy Haven by John Arden has received only three *professional productions since* its première at the Royal Court in 1960. In John Harrison's revival at the Leeds Playhouse, a young cast convert the playing of octogenarians into a convention; half masks are worn by all five inmates of Dr Copperthwaites' surreal old folks' home. The paradox of young cast and old characters is also central to the theme of the play; old age is examined as a concept, a fear and a stereotype. Dr Copperthwaite is experimenting through the elixir of life and youth to turn the clock back on his patients and offer them a "future" which is actually their past. Why then does John Harrison cast the not so young as the very old and lose the irony?

Arden was, characteristically, *experimenting with a* pantomime relationship with the audience. The script ransacks *Comedia dell'arte* and includes *rhythm song and riddles, and* specifies a formalised performance style, while being shot through with attacks on the Welfare State and Ministerial ineptitude, all of which invites a 'Dario Fo' breakneck treatment. Timothy Davis recognises this and plays Dr Copperthwaite as Faustus crossed with John Cleese: a *waist-coated sonorous* pedagogue whose staring-eyed obsession with his elixir turns a lead solo role into a monomaniac party piece.

The rest of the production looks like an afternoon tea-party in a dolls' house. The design provides a two dimensional proscenium arch painting with scientific instruments, time pieces in sepia and beige and a vaguely Baroque mansion backdrop for scenes requiring a laboratory. The patients' masks are chubby cheeked, blue eyed and unwrinkled images of old age; the costumes reflect contemporary realism in drab colours. Dr Copperthwaite's attendant nurses and orderly are starchy but not menacing enough. There are no visual representations of the extremes of human malice and vulnerability which exist in the script to make this play potentially both riotously funny and grotesquely sharp.

Blithe Spirit/Vaudeville

Michael Coveney

Theatre historians regularly assert that Noël Coward's fame is safe with *Private Lives* and *Blithe Spirit*. The former candidate meets with general *approval, the later* with a few sniffs and quibbles and submissions of *Hay Fever* and *Present Laughter*. The historians have an ally at the Vaudeville in this first class, bright, intelligent and throughly enjoyable revival of a piece Coward wrote ostensibly to cheer up London in the dark days of 1941 but which even be paused to consider, jovially, as possibly "Important."

Not even in 1941 could such an exchange as "Anything interesting in The Times?", "Dont be silly, Charles" have been received more enthusiastically. But chance relevance of witticism is secondary to the success of the comedy as a beautifully organised structure in which Charles Condomine, a middle-aged novelist, invites Madame Arcati, an eccentric medium, to dinner with his second wife only to be tormented by the corporeal ghost of his first.

Although he is alleged to have knocked the gloss off it, you can see all too easily why Harold Pinter directed the play at the National some years ago. His own *Old Times* is a variation on similar themes: different versions of the same relationship, the distorting tricks of memory in recriminatory conversation, a murder, a setting *of a hothouse limbo* where fantasy and hallucination play tricks with real time, e suspension of all social responsibilities.

Peter Farago's production preserves perfectly that blend of humour and absurdity in the seance, with its knockings, upturned table, voice of e childish psychic agent and, in a rush of wind through the french windows, the apparition *of Joanna Lumley's svelte grey* Elvira whose elegant curvature is both exotic in itself and a skeletal intimation of mortality.

The action curiously transcends the interference of Arcati, whom Marcia Warren rescues from Margaret Rutherford's legacy end presents as a South London serious amateur in an Indian headband and jumble sale skirts and boleros. She is genteel and concerned, not batty and Ealing comical.

And while Simon Cadell bears an uncanny resemblance to Cecil Parker (who first played *the role*) his Charles is a fascinating mix of threatened animal prowess and unashamed technical display.

Mr Cadell inhabits the style of the play without adopting a reverential Cowardian manner. The same is true of the wives, *especially Jane Asher as* Ruth, whose freshness, spontaneity and tact are seen to full advantage.

The marital rows are played with bite and bitchiness, the writing and playing climaxing in that jealous flare-up, as good as *anything Coward* ever wrote, between Charles and Elvira in which the dying embers of Guy Henderson and his punt ("It was not a punt; it was a little launch"), Cynthia Cheviot and her pearls and Captain Bracegirdle on the moors, are fanned to pulsating *life*. Here, indeed, is the skull behind the mask.

The cast is completed by Rachel Herbert and Roger Hume as the baffled guests and Imogen Bain as a delightfully lumpen, never coarse, maid.

Arts Guide

Music/Monday. Opera and Ballet/Tuesday. Theatre/Wednesday. Exhibitions/Thursday. A selective guide to all the Arts appears each Friday.

Jan 31–Feb 6

Music

LONDON

Cleveland Orchestra, conducted by Christoph von Dohnanyi, with Cleveland Orchestra Chorus; Karita Mattila, soprano; Alfreda Hodgson, mezzosoprano; Siegfried Jerusalem, tenor; Robert Lloyd, bass. Beethoven. *Royal Festival Hall* (Wed).

Royal Philharmonic Orchestra, conducted by Yuri Temirkanov, with Dmitri Alexeev, piano. Mussorgsky, Rachmaninov and Tchaikovsky. *Royal Festival Hall* (Thur).

Ronnie Scott's, Frith Street: Singer Nina Simone and her musicians. (439 0747).

PARIS

Birmingham Symphony Orchestra, conducted by Simon Rattle, with Alfred Brendel, piano. Beethoven, Bartók (Thur). Théâtre des Champs Elysées (4723 4777).

Elisabeth Balmas, violin, Jean-François Heisser, piano: Beethoven, Bartók, Szymanowski (Thur). Salle Gaveau (4563 2030).

WEST GERMANY

Munich, Herkulessaal der Residenz: A lieder recital with Brigitte Fassbaender, accompanied at the piano by Irwin Gage with Schubert and Mahler (Fri).

Berlin, Philharmonie: The Berlin Philharmonic Orchestra, conducted by Lorin Maazel, plays Dvorak and J. Sibelius. Soloist is Yo Yo Ma, cello. (Fri).

NETHERLANDS

Netherlands Bach Society choir and baroque orchestra under Jos van Veldhoven, with Peter Kooy, bass. Händel (Funeral anthem), Bach (Kreuzstab cantata). Tue in Utrecht, Geerte Kerk; Wed in Amsterdam, Waalse Kerk; Thur in Zaltbommel, St Maarten Kerk. (030-51 51 61).

Rotterdam, De Doelen. Nana Mouskouri (Mon); Rotterdam Philharmonic conducted by Emmanuel Krivine, with Gerard Hettema, violin. Prokofiev, Franck (Thur). (14 29 11).

Utrecht, Vredenburg. Léo Ferré, chansons (Tue). Recital Hall: Richard Markham and David Nettle, pianos. Grainger (Tue). Stéphane Varègues, chansons (Thur). (31 45 44).

SPAIN

Barcelona: Soprano Margaret Price accompanied by Geoffrey Parsons, piano, and Miguel Gaspa, clarinet. Lieder concert: Schubert (Tue). Palau de la Musica Catalana, Amadeo Vives 1. (301 11 04); Tenor Manuel Cid with Felix Lavilla, piano. Schubert's Die Schone Mullerin. Salo del Tinell, Placa del Rei. (301 11 04). (Thur).

Madrid: Midday concerts: Monday: Tomas Tischauer, viola, and Argentinian group Trio San Telmo; Milhaud and Chausson; Wednesday: French Baroque, Alvaro Marias, Ahne Zylberajch, harpsichord, and Renee Bosch, viola da gamba. Fundacion Juan March, Castello 77 (435 42 40).

VIENNA

Saint Paul Chamber Orchestra, New York: Haydn, Mozart, Wolf, Dvořák. Musikverein (Mon).

Marc Laforet, piano: Chopin, Beethoven, Debussy, Palais Palffy (52 58 81). (Wed).

Mescal Wilson, piano: Bach, Bartók, Debussy, Schumann. *Musikverein* Brahms Saal (Thur).

NEW YORK

New York Philharmonic (Avery Fisher Hall): Erich Leinsdorf conducting: Brahms, Martinu, Stravinsky, Berlioz (Tue); Zubin Mehta conducting, Jeanne Baxtresser flute: Furtwängler, Mennin, Bruckner (Thur). Lincoln Center (874 2424).

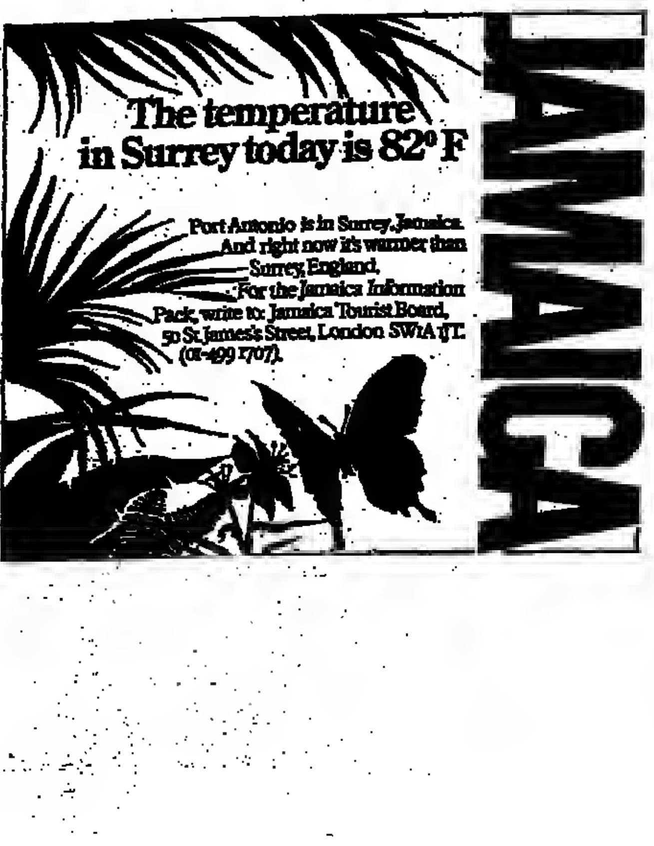
Carnegie Hall: Cincinnati Symphony conducted by Michael Gielen with Peter Serkin, piano: Schoenberg, Brahms (Thur). (247 7459).

WASHINGTON

National Symphony (Concert Hall): Yoel Levi conducting: Barber, Schoenberg, *Saint-Saens* (Tue); Yoel Levi conducting, Andre-Michel Schub, piano. All-Brahms programme (Thur). Kennedy Center (254 3776).

CHICAGO

Chicago Symphony (Orchestra Hall): Leonard Slatkin conducting, Ivo Pogorelich, piano. Schumann, Prokofiev, Barber, W. Schumann (Thur). (435 8122).



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Monday February 3 1986

Botha leaves loose ends

TAKEN at face value, last Friday's speech to the South African Parliament by President Botha appears to represent a further substantial step by the government towards the dismantling of apartheid. It rings with unimpeachable declarations about the need to recognise black aspirations, the acceptance of equal treatment and opportunities for all South Africans and the participation by all South Africans in government, through their elected representatives. The statement also contains a list of much-needed reforms which the government intends to introduce, ranging from the abolition of the hated pass laws to property rights for blacks. Most of these reforms have been announced previously.

The tone of Mr Botha's statement was less belligerent than his disappointing Durban speech last August and it is undoubtedly significant that the government's intentions to carry out its reform programme should be restated so firmly. That said, an examination of the fine print raises many of the old doubts about South African double-talk and coded language. These can only be stilled when more details of the proposed measures and a clear timetable for their implementation become available.

A few examples of the gaps suffice to show why a final verdict on Mr Botha's speech must be suspended. Though Mr Botha has promised that legislation will be drafted to remove existing influx control measures, which restrict the movement of blacks, he has given no indication when they will be abolished.

Questions

The replacement of the pass laws by what Mr Botha describes as a strategy of "orderly urbanisation" raises more questions. It is clear that some regulations will be required to stem the rush to the cities that would ensue from a sudden abolition of the influx control system. But those familiar with the coded language of apartheid fear that "orderly urbanisation" might be influx control by another name.

A fog of imprecision also covers the pledge to restore South African citizenship to blacks who "permanently reside" in the Republic of South Africa, but who forfeited their citizenship as a result of the creation of four nominally independent "homelands."

Nor does the granting of freehold property rights to blacks mean very much as long as the Group Areas Act, which confines blacks to the townships on the edge of white cities and excludes them from white districts, remains in force.

The fate of one of the potentially most interesting proposals, the setting up of a National Statutory Council, chaired by the state President and composed of government, homelands and other black representatives, depends entirely on its acceptance by black leaders. If Chief Buthelezi, the moderate leader of 6m Zulus, agreed to serve on the council, which aims to give blacks a greater say at the formative stage of legislation, that would certainly be a good start. But the absence of other black leaders such as Bishop Tutu, who are demanding a direct transition to a system based on "one man one vote" would be a crippling blow to the scheme.

Dialogue

What this proposal and others in Mr Botha's speech show, is that the President is desperately looking for black representatives with whom the government can conduct a dialogue to end the violence which has cost more than 1,000 lives over the past 18 months.

Seen in this context, the offer to release Mr Nelson Mandela, the jailed leader of the African National Congress, in return for the release of two leading Soviet dissidents and a South African officer held in Angola, may not seem quite as eccentric as it did at first. Unrealistic it certainly was, as demonstrated by the negative Angolan and Soviet reactions it has provoked. But it could be the first real indication that Mr Botha is finally convinced that only the release of Mr Mandela could unblock the log-jam in South Africa and that he is looking for a way to do it without losing face.

For the moment, however, there are too many unanswered questions in Mr Botha's speech. World public opinion and South Africa's international creditors, who are meeting in London later this month to consider proposals for a short-term rescheduling of South Africa's debt, are anxiously waiting for further details from Pretoria.

Curbing abuses in new share issues

NINE businessmen suspected of making multiple applications for British Telecom shares when they were floated on the stock market are to be prosecuted for offences under the Theft Act.

The decision comes 14 months after the flotation and 12 months after the government-appointed accountants completed their investigation into the matter. Both the length of time the decision has taken—which may make it more difficult for witnesses to testify accurately—and the nature of the charges highlight some of the major deficiencies in the legal framework governing the UK securities markets.

Public policy undoubtedly requires some mechanism to deter individuals from making windfall gains of several tens of thousands of pounds by submitting multiple applications for shares in false names, thus reducing the number of shares available for ordinary small investors who made only one application. But it is both cumbersome and artificial to do so by invoking the Theft Act.

The relevant offence, as defined by the Act, is that of obtaining dishonestly and by deception property belonging to another with the intention of permanently depriving him of it. The section was not designed to apply to stock market stags. Whatever its virtues of simplicity, its extreme generality has already led to much esoteric disputation in the courts on the nature of dishonesty and whether it applies to matters as diverse as leaving a restaurant without paying, swapping price labels in a supermarket and taking a prior look at public examination papers.

Mischief

The real mischief in this case has less to do with the alleged depreviation of anyone's property than with a possible abuse of the procedures for raising capital on the securities markets. And generally it would be more appropriate to tackle the problem through other measures.

With many new share issues preventive measures are sufficient. The temptation to make multiple applications for British Telecom shares was the result of the substantial underpricing (by over 40 per cent) of the issue in relation to the value put on the shares by the stock market. The underpricing was in turn a consequence of the unprecedented size of the issue, the unpopularity at that time of the tender mechanism for fixing issue prices and the Government's wish to encourage small investors by including an element of bounty in the issue price.

Yet even in cases where a share issue proves to have been substantially underpriced, greater vigilance to stop multiple applications being submitted and to single out those which have seeped through will persuade many stags that the game is not worth the candle, as the recent Laura Ashley issue demonstrated.

In cases where it is necessary to crack down on multiple applications in false names, the broadsword of the Theft Act should be replaced by the rapier of a specific securities law offence. This would focus not on the possible effect of such abuses, the possible "permanent deprivation of property," but on the methods used, and the procedures abused, by the applicants.

Property

A variety of other abuses in the City could also be tackled in this way to back up the provisions and institutions envisaged in the Financial Services Bill now passing through Parliament. In other jurisdictions, for example, it is a specific criminal offence for a stockbroker or investment manager to "churn" the share portfolio of his client to generate commission for himself, or for an insurance broker to advise a client to buy a policy without disclosing that he will be making commission on the deal. In the UK, the Theft Act is often the only criminal law that can be used to deter such offences. Because it is based on the law of property, it is not a suitable instrument to counter breaches of fiduciary duties.

The criminal offence of insider dealing is one of the few examples of where a specific statutory securities market offence has been created. And the record of bringing prosecutions under this provision since it was introduced five years ago has been poor. But this is more the consequence of inadequate powers and resources to investigate the offence than of any defect in the way the offence is defined.

The desperate battle just to survive

By Max Wilkinson in Houston, Texas

AS A GROUP of Opec ministers meets in Vienna today to discuss the chance of stabilising oil prices, the industry is girding itself for a revolution which threatens a major shake-out of the independent oil sector.

Even some of the largest names in the industry are likely to be badly battered, if oil prices continue to weaken, as many analysts now believe is likely.

The portents for the oil industry are already ominous: in the last few days Global Marine, the Houston-based offshore drilling contractor has filed for bankruptcy with around $1bn in debts, while Atlantic Richfield (Arco), the US's second largest domestic oil and gas producer, plans to lay off 2,100 employees and sell 10 per cent of its reserves.

The largest oil companies from Exxon downwards are faced with major cuts in revenue. Many "smaller" independents with large debts face bankruptcy or take-over.

Those that survive are likely to make severe cuts in exploration, which may prejudice their longer term future when current oil and gas reserves run down during the next seven to 10 years.

Average prices actually paid for oil in the US were between $23 and $25 a barrel last month, but many people believe that spot prices, which have fallen as low as $18 per barrel, are pointing the way to new and uncharted territory.

As Mr Daniel Yergin, president of Cambridge Energy Research Associates, told a conference of oilmen in Houston, Texas, last week: "We are witnessing an historic shift in the oil market: the reassertion of economics over politics."

In a tone of sharper anxiety, Mr Robert McClements, president of Sun Oil, the US's tenth largest producer, said: "We have never been here before. We have been tested before, but never so dramatically."

For decades, he said, the oil industry had been cushioned by an assured growth in volume or more recently by rising prices. But now it faced a future in which "those insurances have been cancelled."

Although companies are still assessing how to react, the direction is clear. The number of drilling rigs operating in the US has fallen by 60 per cent since the peak in 1981 to only 1,773 at the latest count, and some observers believe it could be down to 1,600 by the end of this year. Bankers who have been anxiously monitoring their loans to the sector, especially to equipment suppliers like Global Marine, say that even in the past two weeks some oil companies have pencilled in a new round of cuts.

Salomon Brothers has estimated that the difference between an average $25 price of an oil barrel and $20 would mean a cut of 25 per cent in Exxon's income for 1986. Texaco, already embroiled in an $11bn law suit with Pennzoil, would be even harder hit with its income reduced by more than half.

Dr Philip Oxley, president of Tenneco's exploration company, the 12th largest in terms of US production, says that at $18 a barrel cash flow would be reduced by about a third compared with a year ago.

"We would obviously be forced to drop a lot of capital-intensive projects and to think very seriously about some of the properties we already have," he says.

In general, he believes, the major companies, with continuing cash flow will keep up the pace of exploration in areas like Alaska or parts of the North Sea where there are prospects of large finds. The companies' future survival depends on their ability to replace existing reserves as they are used up.

"But the pot boilers, which are now less profitable will be cut out. It doesn't make much difference to us if we find 2m barrels of oil in Texas, but it makes a hell of a difference if we find 2bn barrels in the North Sea," he said.

For the time being, many of the major oil companies are being cushioned by the remarkable resilience of prices for their refined products. In the US as in Europe, the recent softening of petrol prices has been far less than the 30 per cent drop in crude prices since last autumn.

The 26 per cent improvement in Exxon's fourth quarter results, announced last week, reflects the dramatic turn round of European refining operations. Now, with oil prices much lower in dollar terms US refineries are also having a much easier time.

But many of the independent companies have no such cushion. They have been caught in a pincer between falling oil prices and a rapid easing of US natural gas prices as a result of over-supply and de-regulation. Natural gas sales account for about two thirds of the business of the smaller independents compared with about a third for the oil majors.

In the past two years the impact of falling revenues has been softened by reduced liabilities for windfall profits tax, but for most companies this cushion will disappear in 1986.

Moreover, President Reagan's tax reform proposals now before Congress will reduce significantly the worth of investment and other allowances to these companies.

Moreover, Mr Richard Adkerson, chief oil industry analyst at Arthur Andersen, the US-based accountant, estimates that to remain profitable the 234 independents surveyed by his company last year would have to lower their costs in finding oil by some 40 per cent compared with their average for the past five years. Drilling costs have fallen steeply as a result of the depression in the industry but Mr Adkerson comments: "I don't think all of them can make it."

A powerful example is provided by Inexco, a medium-sized company with an excellent drilling record in recent years. It is now up for sale, largely because debts contracted in the palmier days when gas was $5 per thousand cubic feet is having to be paid off with "$2 gas."

Mr Irving Wolf, the president, whose family owns 40 per cent of the company, says it has now become uneconomic to explore for oil or gas, especially as he cannot sell half of his potential gas production. Inexco, whose total assets were $811 at the end of 1984 is still waiting for a buyer with the resources to take a longer view of the company's extensive oil and gas reserves.

As one Sohio executive remarked: "The larger companies may well find it more attractive to pick up reserves by acquisition than to go prospecting for them."

For the US as a whole, this poses a serious question. As Mr Wolf asks: "When present reserves run down, what are we going to replace them with? Three-quarters of on-shore exploratory drilling has been done by the independents."

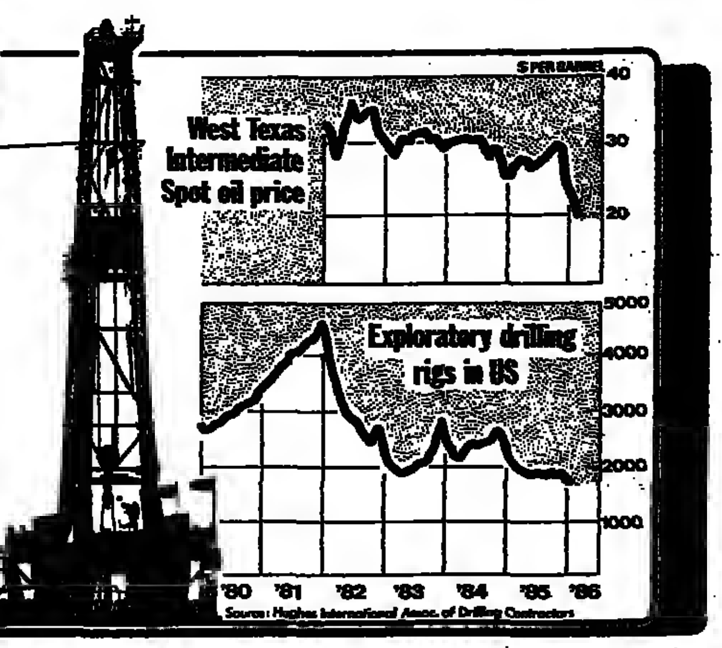
Since the US imports a third of its oil, this worry is certain to increase the clamour for a $10 a barrel oil imports tax, or as Senator Gary Hart, campaigner for the Democratic presidential nomination, calls it, an "oil freedom fee."

But for many in the industry the immediate, almost desperate, hope is that international political action will somehow brake the fall in oil prices that otherwise seems inevitable. As Mr Wolf said: "Perhaps Maggie Thatcher could do something . . ." Perhaps.

IMPACT ON EARNINGS OF FALLING OIL PRICES*

	1986	1987	1988	1989	1990
BP	37	25	15	10	4
CHEVRON	37	32	18	7	1
EXXON	27	27	18	11	4
MOBIL	33	32	24	12	8
ROYAL DUTCH	21	21	15	10	5
SHELL TRANSPORT	21	21	15	10	5
TEXACO	54	57	44	27	13

Source: Salomon Bros estimate and FT calculations.



* Figures in table show percentage reduction in earnings per share if oil price falls from baseline $25 a barrel to $20

ALL EYES ON THE EMPTY CHAIR . . .

AT A conference of Opec ministers in Bali a few years ago, the Iranian minister was unable to attend, having been kidnapped by the Iraqis. So the Iranians propped up at the negotiating table a life-sized cut-out photograph of their absent leader, writes Dominic Lawson in Vienna.

Sheikh Ahmed Zaki Yamani, the Saudi Arabian Oil Minister, will not be present at today's meeting of five leading Opec ministers in Vienna, assembled to devise a plan to secure the organisation of "a fair share in the world oil market." But the oil ministers present need no symbolic reminder of the influence of the country which has a quarter of the planet's crude oil reserves.

For an oil market which has lazily assumed that the Saudis would ensure that supply and demand would balance, the shift in Opec policy has been profoundly disorienting.

But if the oil market is disoriented, a number of the ministers and officials of Opec are hardly less so. To establish how much oil demand is left after non-Opec has sold its full capacity and to fill the gap is, however painful, a reasonable agenda for discussion. To sit down and decide on a "fair share of the market" is not.

If the object of the exercise is to establish reasonable income for each country's development then market share without control over price is not enough.

In a three-day meeting of experts from all 13 member countries here last week figures of between 17.2m b/d and 18m b/d were bandied about as possible fair Opec shares. But the experts might just as well have named 25m b/d. The world will not buy more oil than it wants. If Opec attempts to sell more than the residual demand for its oil it will have to force other producers to shut in capacity. In theory the price at which capacity will be shut in is at levels below marginal operating costs. The Opec producers have frequently nominated the North Sea as its weakest opponent in such a conflict. But in the UK sector 95 per cent of all fields cost no more than $5 a barrel to operate while the rest comes in at under $12 a barrel.

In the US there is over 1m b/d of production which costs at least $15 a barrel to operate. But as recessions in other industries have shown, producers will sell their product at a loss for some time in the hope that rivals will leave the market first. And notwithstanding the opposition of Ronald Reagan, the US legislature is more likely to put up import tariffs than to allow its domestic oil industry to shrivel.

Countries with the most effective marketing strategies will be the winners. This favours those with guaranteed downstream outlets such as Kuwait, which under Oil Minister Sheikh ali Khalifa al Sabah has effectively turned itself into an integrated oil company with the European refining and retail network sufficient to absorb about three-quarters of its production.

The Venezuelans, always quick to see which way the wind is blowing, have rushed in recent weeks to buy into European refineries. The Saudi netback policy is a hand-made version of Kuwait's much more impressive long-term strategy of downstream diversification.

For those producers inside Opec with high populations, high debts, little capacity for increased output and no assured outlets the outlook could be horrific. Although all 13 Opec members endorsed last year's Geneva clarion call to fight for market share, in the past week Iran, Libya and Algeria have begun to express fierce opposition to the new policy.

But the Saudis' apparently sudden drive for market share is no break with its traditional oil policy. As King Fahd pointed out in September: "We have nothing except oil production." Saudi policy has been determined by a desire to ensure that a substantial market for oil exists in 100 years' time, when it will still have "nothing else except oil." That means keeping the price down to a level that discourages substitution by other fuels.

From 1977 to 1982, the Saudis fought vehemently against the dominant high price faction within Opec and during that period sold its oil at the lower price than others in the organisation. The problem then was that in a tight market the Saudis could not force others to follow their low price policy. Now the same Saudi policy will succeed because in a glut the market must follow the lead of the price discounter.

When Sheikh Yamani warns that if non-Opec—particularly the UK—does not cut output, the price will fall below $15 a barrel, he may not be too disappointed if they do not oblige. It will give the Saudis someone else to blame for a price collapse. At $15 oil should start to fight back into the power generation market and if any producer can benefit from that, it is the Kingdom.

Men and Matters

Nicolson to lead Vickers bid

That ubiquitous businessman, Sir David Nicolson, former chairman of British Airways and BTR, turns up again today as non-executive chairman of VSEL Consortium, the company formed to mount an employee-led bid for the state-owned Vickers and Cammell Laird shipyards.

Now 63, Nicolson still pursues a workaholic life-style, with a score of directorships and a host of other posts ranging from adviser to the New York Stock Exchange to membership of the CBI council.

But he finds much to attract him about his new job. Nicolson started his career in shipbuilding, joining the Royal Corps of Naval Constructors straight from Imperial College during the war, and subsequently becoming an assistant yard manager at Vickers Armstrong on the Tyne. As a management consultant during the early 1950s, he was closely involved in efforts to modernise a number of shipyards.

"I have been in love with ships all my life," he says. He is a yachtsman, a trustee of the Royal Naval Museum, Portsmouth, and not least, for the past 10 years, has kept a finger on the shipbuilding industry as a director of Todd Shipyards on the US west coast.

"Neither Todd nor Vickers sees any conflict of interest arising," he says.

Nicolson, a long-time advocate of wider share ownership and employee participation, is also enthused by the "forward-looking" co-operation between management and workers in mounting the bid.

The aim is for employees to take up to 20 per cent of the equity. Over 40 per cent of the 12,000 workers have indicated they would buy shares, helped by an interest-free loan scheme. Local residents in Barrow-in-Furness and Birkenhead, whose livelihood depends on the yards, would also be offered a stake in them.

"I think those objectives are very well worth pursuing," says Nicolson.

Dr Rodney Leach, VSEL's chief executive, believes for his part that Nicolson's experience of industry and negotiations with Government and the City will be "immensely helpful" in making a successful bid for the yards in which Trafalgar House is also showing an interest.

Davos detente

It was not as spectacular as the Reagan-Gorbachev meeting but it made history all the same—and once more, the scene was Switzerland. With camera bulbs flashing, Andreas Papandreou, the Greek Prime Minister, and Turgut Ozal, his Turkish counterpart, advanced and shook hands for the first time. Later, both leaders sat on the same panel for an economic discussion, and a beaming Papandreou even praised Ozal for putting "a very good question."

That will not solve the Cyprus problems, of course. But there was a distinct political thaw in the air during the weekend encounter in blizzard-swept Davos, 5,000 feet up in the Swiss Alps.

That the meeting took place at all is thanks to Klaus Schwab, professor of business policy at Geneva University, and a man with an uncanny knack of bringing together unlikely partners.

Some 15 years ago, while lying by the Davos swimming pool watching a Congress Hall being built next door, Schwab, now 47, had the idea of founding an international business conference. These days, the Davos Symposium of Schwab's Geneva-based EMS Foundation is an annual event, attended by more than 600 political leaders and top executives from more than 50 countries.

Schwab coaxed the Chinese to start going there years ago. This time, he has arranged a satellite-transmitted question and answer session with Moscow, as well as the Greek-Turkish mini-summit.

Perhaps next year, he could attract Gorbachev himself. The Soviet leader evidently thirsts for knowledge of modern business. Where better to get it than Davos?

"Does one applaud or just throw money?"

Talking turkey

Norfolk poultryman, Bernard Matthews, is not the only one who thinks that turkeys are "booty-full." In Rogers, Arkansas, James "Red" Hudson is about to go public on the American Stock Exchange with his Hudson Foods, ranked 14th largest US turkey producer. Hudson hopes to raise $20m to $25m.

Investment bankers, Donaldson, Lufkin and Jenrette, who are helping to hatch the offering, see Hudson as the ultimate yuppie stock.

This does not mean that young, upwardly mobile professionals will necessarily buy the shares, 10 per cent of which are due to end up outside the US. Yuppies, however, are the sort of people who have switched to white meat in a big way, on health grounds.

"Doctors, I find, are my best salesmen," says Hudson, a spritely 61, helping to explain why, unlike Matthews, he has not yet felt the need to promote his products personally.

Hudson plans to use the money raised to move more heavily into higher margin, chill-pack products and into ready-to-cook gourmet dinners, another recent success in the US food industry.

His "Red" nickname seems a bit inappropriate for a man who has spent his working life in the white meat business, and who organised one of the first leveraged buyouts in 1972 when he bought the broiler business he ran for Ralston Purina.

It has nothing to do with his politics either—just the colour of his hair.

Bench mark

One effect of the accession of Spain and Portugal to the EEC has been to inject some younger blood into the European Court of Justice in Luxembourg.

At 39, Gil Carlos Rodriguez Iglegias, the new Spanish judge, is not only the youngest man to sit on the Eurobench, he is also less than half the age of the court's oldest member, 81-year-old Giacinto Bosco, of Italy.

Jose Luis Da Cruz Vilaca of Portugal, who becomes the court's sixth Advocate General, is 41, while his country's Euro-judge, Jose De Almeida, is 49.

Of the 11 judges they will be joining, only Rene Joliot of Belgium is under 50.

Price control

They have a short way of dealing with rules and regulations in Tunisia, it seems.

A reader on holiday there tells me that as his tourist bus approached a museum in Tunis, the Arab guide announced in matter-of-fact English: "Photography in the museum is strictly prohibited. Please leave all cameras on the bus. If, however, you wish to take pictures, please pay the man at the door two dinar (£2)."

Observer

هكذا عن الاصل

Foreign Affairs

The case of the tongue-tied strategists

By Ian Davidson

JUST OVER two weeks ago, Mr Mikhail Gorbachev launched a plan for complete, world-wide *nuclear disarmament* by the year 2000. His initiative was totally unexpected both in scale and timing, and it has apparently stunned everybody in the West *into silence*, incoherence or elaborate throat-clearing. Washington's first reaction was guarded "interest." Last week the French foreign minister sounded faintly ridiculous when he described the proposal as "a step in the right direction"; what would be the next step? I have been hoping for some tips from my elders and betters; but the chatterboxes in the strategic community have apparently lost their tongues. So here goes, anyway.

It is fairly easy to pick at little bits of his grand scheme, and say: this bit looks like a shift in our direction, or that bit still looks unacceptable. At a quite different order of generality, it is also easy (or at least tempting) to dismiss the whole thing as absurdly Utopian and therefore purely propagandistic. It is much more difficult to make a confident appraisal of the real political intentions behind the proposals.

The fact that Mr Gorbachev no longer *seems to be trying to* have the British and French nuclear deterrents "counted in" with American nuclear forces in any arms control agreement looks like a step forward. There may be promise in the proposal that both super-powers should eliminate all their Intermediate-range Nuclear Forces (INF) *in Europe*, even if this last proviso is an obvious trap, because it leaves out the Soviet SS 20s in Asia. The apparent concession that Star Wars deployment should be banned, but not research, has *obvious* merit because it makes the issue start to look a bit more negotiable.

Conversely, the proposition that Britain and France should *undertake not to build up* their nuclear forces will obviously be unattractive to Britain and France, because both governments are committed to a large programme of expansion over the next few years; and the proposition that the US should undertake not to transfer strategic missiles to other countries will be doubly unattractive to Britain, because it would prevent the purchase of the Trident missile.

But it is hard to measure the significance of these details without a sense of the overall structure. Is Mr Gorbachev seeking to change the terms of the current Geneva negotiations by vastly enlarging its agenda, *ambitions and time-scale? Or is* he merely sketching out what he wishes us to believe is the general thrust of Soviet aspirations?

If he is not proposing a single mega-negotiation, starting now, what are the conditional linkages between the various parts of his grandiose, three-phase, 14-year plan? It is obvious that he wants to stop President Reagan's Star Wars programme; and a Soviet proposal for complete nuclear disarmament by the end of the century looks at least like a good propaganda response to President Reagan's original claim that Star Wars would render nuclear weapons "impotent and obsolete." If there were no nuclear weapons, there would be no need for a defence against them. But we cannot at this stage assess which broad areas of the canvas are mere propaganda and which are seriously meant as a basis for negotiations, whether now or later.

Perhaps a skeletal reminder of the Gorbachev scheme would *be helpful. It falls into three* phases, with several elements in each.

Phase One: the next five to eight years

- A 50 per cent cut in US-Soviet strategic weapons, with a ceiling of 6,000 warheads each.
- The renunciation of development, testing and deployment of "space-strike" weapons (ie, Star Wars).
- The elimination of all US-Soviet INF in Europe.
- Britain and France renounce any nuclear build-up, and the US renounces any transfer of strategic or medium-range missiles to other countries.
- US-Soviet ban on nuclear testing.

Phase Two: 1990—for five to seven years

- Other countries join the nuclear disarmament process, starting with a freeze.
- US and Soviet Union continue to implement the 50 per cent cut in strategic, and the elimination of intermediate-range, nuclear weapons; they also freeze short-range tactical nuclear weapons.
- When the strategic weapon cut is complete, all countries eliminate short-range tactical nuclear weapons.
- All countries *stop* nuclear testing.
- All major countries adhere to the ban on "space-strike" weapons.

Phase Three: 1995-1999

All countries eliminate all remaining nuclear weapons by 1999.

The first question that raises its head is this: why does Mr Gorbachev feel the need to offer such a vast and elaborate edifice? Many people would no doubt like nuclear weapons to "go away"; few can seriously believe that such an objective is negotiable and verifiable, especially *if negotiation* and *verification* are to be applied not merely to the two super-powers but also to all countries which have or are suspected of seeking a nuclear capability; such a scheme could scarcely be implemented in a dozen short years.

It all looks gratuitously puzzling. Last year, the world was surprised, impressed and respectful when Mr Gorbachev first proposed a 50 per cent cut in strategic nuclear weapons. Surprised, because this was the first time in 40 years that the Soviet Union had taken a plausible initiative in an arms control negotiation; impressed, because not since the ill-starred Carter initiative of 1977 had either super-power proposed a significant reduction in nuclear weapons; respectful, because Mr Gorbachev sounded as if he meant it. The Americans, by contrast, had painted themselves into the awkwardly negative position of protesting that they would never give up their Star Wars programme. In other words, in negotiating as well as in propaganda terms, the Soviet Union already held the high ground, and the Reagan administration did not appear to know how to recapture it, or even whether to try. So why has Moscow now upped the ante in ways which raise questions about its seriousness?

At least three possible explanations suggest themselves. In the first place, Moscow may be having second thoughts about the deep cuts in strategic nuclear weapons which it proposed *last year*: *complete* nuclear disarmament sounds even more virtuous, but the enlargement of the agende could confuse and slow down the *negotiating* process in Geneva. This would be a remarkable *volte-face*; but Mikhail Gorbachev has been so hyper-active on the international stage in his 300 days in power that surprises have ceased to be entirely surprising.

On the other hand, the corollary of such a backing-off would be a lower priority for the quest to curb President Reagan's Star Wars; and this would be not just surprising, but implausible. We know the Russians are worried by Star Wars, not because they believe in Reagan's dream of a perfect defence against nuclear missiles, but because they fear the dangerous instability and the vast economic cost of a new defence-offence arms race. The odds must be that Mr Gorbachev is still committed to the kind of deep cuts which might force President Reagan *to do a deal over* Star Wars.

The *second* hypothesis is that Mr Gorbachev's *new* plan is meant to be taken seriously but *not literally*: *this is* not a blueprint for negotiation, but a political gesture the significance of which lies more in the direction of movement than in the result at the end of the road. A 50 per cent cut in strategic nuclear weapons would sound, and on the historical record would be, dramatic; but it would still leave the two superpowers with vast overkill in nuclear weapons, with many of the old grounds for fear and suspicion. The implied premise of the Gorbachev propositions, *unstated but essential, is* that the *political* relationship between the two super-powers can be entirely different from the frost which marred 1979-84, and its transformation can be cemented by a process of arms control negotiation stretching far into the future.

There seems little doubt that Mr Gorbachev *does* want a better relationship with the US, and he needs it for the sake of the revival and reform of the domestic Soviet economy. He may even be prepared to accommodate American sensitivities in the Third World, though he can scarcely be expected to make any meaningful or binding promises on that score. But arms control is susceptible to negotiation, and may be the most powerful lever for reviving a form of detente.

Even if there is something in this *hypothesis*, it is not incompatible with a third explanation: that in Mr Gorbachev's vast three-phase plan, only Phase One really counts and should be looked at in isolation. Here the innovations, compared with previous Soviet positions, seem entirely directed against the security of Western Europe and the solidarity of the Atlantic Alliance. At the strategic level, the Soviet Union would trade a 50 per cent cut in the weapons of the super-powers, in return for a ban on testing and deployment of Star Wars. But at the intermediate level, the US would give up all its missiles in Europe (Cruise and Pershing II), while the Soviet Union would keep all its (mobile) SS 20s currently based in Asia; France would have to abandon its nuclear modernisation programme, and Britain would have to abandon the purchase of Trident.

Nothing requires the US to accept the terms being proposed by Mr Gorbachev. But if the ingredients of Phase One are taken both seriously and literally, they imply that Moscow will continue to press very heavily, both for the removal of America's Euro-missiles from this side of the Atlantic (with possibly grave consequences for the plausibility of the US nuclear umbrella in Europe), *and for a major*, possibly *debilitating* contribution to the arms control process by Britain and France. The Geneva negotiations leave room for two nightmares. The first is that Ronald Reagan refuses an equitable arms agreement in order to hang on to Star Wars; the second is that he does a deal with Moscow at the expense of the European allies. In neither case will the Europeans sleep easy.

Some key dates

- March 11 1985—Mikhail Gorbachev succeeds Konstantin Chernenko as General Secretary of the CPSU
- Sept 9 1985—Gorbachev interview in Time Magazine
- Aug 6 1985—Gorbachev starts moratorium on nuclear testing until year-end
- Oct 3 1985—In Paris Gorbachev offers a 50 per cent cut in strategic nuclear weapons, and a separate deal on Euro-missiles
- Nov 19-20 1985—Gorbachev-Reagan summit in Geneva agrees the principle of a 50 per cent cut and an interim Euro-missile deal
- Jan 15 1986—Gorbachev proposes total, world-wide nuclear disarmament by the year 2000.

Lombard

The DoE blows its own gaff

By Anthony Harris

SUPPOSE for a moment that despite the total scepticism of nearly everyone in the British Cabinet, apart from Mrs Thatcher herself, and the deeply-felt opposition of the Treasury, the Baker Green Paper on abolishing local rates was put into practice. What would its effect be? The answer is given in the Green Paper; half of it has been widely publicised, but the other half has received almost no attention. Put the two together, and you will find a rare examplo of a Government department blowing not its own trumpet, but its own gaff. To judge by one or two conversations with officials, it is unlikely that this is an accident.

The well-known half of the answer is that there will be 10m winners and 10m losers from the change; this is already enough to frighten any but the greenest MP, who knows that hard cases make adverse swings.

Admission

Political self-sacrifice, however, can sometimes be praiseworthy, in a worthwhile cause. The really damaging admission is buried away in Annexe E, which looks at what the reforms would do to the house market. Stripping away the ifs and buts, it says that while the costs to the losers would be permanent, the gains to the winners would be largely transient.

In the words of the annexe: "It is necessary to distinguish between present owner-occupiers and first-time buyers. Present occupiors would benefit *from (lower charges and)* "an increase in the value of their houses. Newcomers, by contrast, would face higher house prices and mortgage outgoings that would partially offset the savings in rate payments."

This official recognition of what economists have long known—that fiscal concessions to property owners, although they may be intended to assist buyers or occupiers, are in principle a capital gift to *sellers*—is more than welcome. It is worth adding that the idea that savings would be "partially" offset depends on tho idea that the rise in house prices would lead to more housebuilding. So it probably will, north of Watford, as they say; but in the booming south, the supply of houses is limited mainly by the supply of building land, which is quite another issue. As long as land supply is the constraint, newcomers will simply have to buy the "benefits" of rate abolition along with the bathroom fittings; they will be wholly offset.

Upside-down

This simple analysis also goes far to explain why the Treasury are such keen defenders of property taxes. All you need do is to turn the DoE's analysis upside down.

The DoE shows that relief from a property tax gives a once-for-all capital windfall to existing owners, but only a transient income benefit. It is equally true that the imposition of a new property tax imposes a once-for-all capital loss on existing owners, but only a transient loss of income. That is why so many wiser countries impose land taxes—and why the idea was approved in this country by a Royal Commission which reported in 1895. It would be nice to think that its advice would be acted on before its centenary.

Unfortunately, though, it is likely to die exactly the samo death as Mr Baker's plan; for the transient losses would be immensely painful politically and the long-term benefit (notably much lower land prices) would emerge only later. The same analysis which shows that the idea is economically desirable shows that it is "politically impossible." Not even the Liberals talk about site value rating any more; yet here the cause really is worthwhile.

Letters to the Editor

Manufacturing industry

From Lord Kaldor

Sir,—In his article of January 29, Professor Maynard appears to suggest that the decline in UK manufacturing output was part of a world-wide phenomenon precipitated by the 1979-1980 oil price rise and in the case of the UK, aggravated by the discovery of North Sea oil.

Since net exports of fuel represented some 2 per cent of GNP it was inevitable that net exports of manufactures should deteriorate by an equivalent amount if the overall balance of the current account were to be kept unchanged. This, however, says nothing about the *consequences* of these changes on the GNP as a whole.

The value added by the newly discovered oil is a net addition to our potential GNP and it does not justify any fall in manufacturing output, or indeed in any other category of production. It certainly cannot justify the fall of manufacturing output by 17 per cent between the second quarter of 1979 and 1981 and the rise in unemployment by 2m between 1979 and 1984. If as a result of the consequences of our oil exports our net manufacturing exports are reduced, it is the duty of the Government to expand domestic consumption and investment so as to maintain *actual output* in relation to potential. It was not the UK's manufacturing deficit "which mattered" but the fact that manufacturing output, together with employment, had sharply fallen and our GDP as a whole was reduced at a time when the manufacturing output of other members of the Organisation for Economic Co-operation and Development (contrary to what Professor Maynard suggests) was increased or at least maintained. It is possible to maintain of course that 3m unemployed was a necessary price for obtaining the high exchange rate as an instrument for fighting inflation.

The really unfortunate fact was that North Sea oil and Mrs Thatcher came on stream at the same time and this caused our situation to become aggravated by higher taxation and higher interest rates *just* when the addition to our potential GNP made by North Sea oil called for the very opposite of these policies.

Nicholas Kaldor,
House of Lords, SW1

Difficult tap to turn on

From the Secretary, Institution of Production Engineers.

Sir,—The article by Geoffrey Maynard "The UK's manufacturing deficit doesn't matter" (January 29) cannot be allowed to pass without comment.

I am sure the author is an expert in the field of economics, but I am not so sure of his credentials when it comes to the realities of manufacturing industry. He is falling into the usual trap when he states "The widespread fear that the UK no longer has the manufacturing capacity to fill the gap left by oil is probably overdone."

The fact is that manufacturing industry needs people as well as investment. It takes about ten years to train a professional production engineer (a good deal longer than an economist). Moreover, the rate of change in manufacturing technology demands constant re-education by everyone in the profession. To imply that wo simply turn on the manufacturing tap "in the long run" shows a lack of realism.

R. J. Miskin,
66 Little Ealing Lane, W5.

Access to markets

From the National Secretary, Textile Group, Transport and General Workers Union.

Sir,—I was astounded to read your one sided leader January 30 on the future of the Multi-Fibre Arrangement. Although you seem to take an Olympian view on trade liberalisation and the forthcoming GATT talks, you conveniently overlook a number of very important issues pertinent to the current re-negotiation of the MFA.

The MFA is officially recognised and its operations are monitored by the GATT authorities. It actually guarantees exports from the Third World growing access to our markets. You take no account of the United States position where President Reagan has quite clearly stated that the US trade representative is directed "to most aggressively re-negotiate the MFA on terms no less favourable than present." This presents a clear danger of trade diversion from the US to the EEC if our position is weak on the re-negotiation and the subsequent bilateral agreements.

Most importantly, as in the case of the European Commission and our own UK Government, you take no account of the effect that a weak MFA would have on jobs in our industry. *If* the present EEC draft negotiated mandate is adopted at the next Council of Ministers meeting and becomes part of a renewed MFA, it will jeopardize 100,000 textile and clothing workers jobs in the UK. In view of the 300,000 jobs already lost to the industry since 1979 and the shameful level of unemployment at 3.4m, more care needs to be taken to ensure tho future of this valuable manufacturing industry and the 500,000 UK workers still employed within it.

P. Booth.
National House,
Sunbridge Road, Bradford.

Phasing out quotas

From the Directors, National Consumer Council,

Sir, — I very much welcome your timely leader "Time to phase out the MFA." (January 30). Consumer organisations in this country, in the Common Market and indeed globally, fought the last round of the Multi-Fibre Arrangement and are fighting this one. Sadly, in spite of your leader, I fear that we shall be fighting the next.

It is becoming clear that the MFA imposes enormous hidden costs, not only on British consumers, but also on the rest of business and on the economy as a whole.

It is vital that our Government leads the EEC into a liberal negotiating position. Tinkering with the system, for instance by loosening a little the quotas on children's clothing, is nowhere near enough. The position that the EEC should be *taking is that we spend the next* round of the MFA phasing out quotas so that we never need them again.

Jeremy Mitchell,
18 Queen Anne's Gate SW1.

That poll tax

From Mr J. de Rivaz

Sir,—The Government's intentions to spread the burden of local authority finance are admirable. As up to 75 per cent of such spending is on education, however, the ideas fall far short of the target.

An easy answer would be to fund education from central government, via general taxation. Those, however, who perceive a practical difference between local and central government will complain at this. A logical but more complicated alternative would be for the poll tax to fall on everyone. An appropriate increase in child allowance could then be used to make taxpayers the ultimate provider of educational finance.

John do Rivaz.
West Towan House,
Porthtowan, Truro,
Cornwall.

Unexploited vision

From Professor I. Aleksander

Sir,—In his otherwise excellent article (January 30) on computer visions systems in industry, Peter Marsh seems to have missed a salient point. Ho has drawn attention to the fact that human labour is fallible and therefore a significant percentage of assemblies go wrong and need to be detected through computer vision systems. The situation is a little more subtle. It is the automated process which *can sometimes* throw up defects that to a human inspector may be quite obvious. But the thrust of automation is such that in order to maintain processes operating in an uninterrupted fashion, and therefore achieve an increase in overall quality of a product, both human assembly operators and human inspectors are being detached from processes and called in only in case of malfunction. Therefore the key issue which has made computer vision systems take off in the *past year or so is that they hold* promise where production planning becomes very difficult.

It is difficult to foresee the sort of mis-assemblies that an automated plant will produce. It is therefore important that the vision system which inspects the products of such a plant be enormously flexible and it is this flexibility that distinguishes between products that are currently available on the market.

Peter Marsh has also referred to the "smallness" of British industry in this area. It is important to point out in connection with the flexibility mentioned above, that some beautifully flexible equipment is being manufactured in the UK. The problem with exploitation of this is the usual one: potential British users of vision should be prepared to experiment with these new forms of equipment to far greater an extent than has been done so far. After all, they are bound to be on a winning track: the purchase of £30,000 worth of vision equipment can add value to a product of several orders of magnitude greater than the modest investment. Therein might lie a better explanation of the enthusiasm in the US motor industry for taking this direction.

(Prof) I. Aleksander.
Imperial College of Science and Technology,
180 Queen's Gate, SW7.

FINANCIAL TIMES

Monday February 3 1986

Terry Byland on Wall Street

The thrifts come into their own

THE BELIEF that low oil prices can only be translated into low inflation and low interest rates took hold at the end of last week, driving the stock market to new highs. Falling gold prices also signalled the appeal of the anti-inflation argumeot.

Among anti-inflatioa stocks, thrift companies have begun to come into their own, as the market distinguishes between the well established problem areas – the Marylands and Ohios – and the broader range of companies that have successfully oavigated their way through the reshsping of the industry. Successful thrifts have everything to gain and little to lose from lower interest rates.

Other interest-rate sectors have proved less confident. Banks remain vulnerable to their energy-loan portfolios: many utility stocks are still geographically tied to depressed industrial and farming states. But first results for 1985 from the thrift companies confirm that the industry has enjoyed its most successful year yet and will earn about $5bn, twice as much as in the previous record year of 1979.

The substantial recovery in the thrift industry's fortunes has been wrought by the drop in the average cost of funds. In many states, the average funding cost was already down by 2 points by the year end, and since most savings & loan (S & L) assets are still in fixed-rate mortgages, those shifts in rates pass almost painlessly through to the bottom line.

Not all is rosy, though. The General Accounting Office estimates that around 15 per cent of the industry is still technically insolveot. The pressures of restructuring and deregulation, as inflation and high interest rates took their toll in

Company	p/e
Ahmanson	7
Calfed	5
Golden West	7
Great Western	8
S&P 500	13.72

1981–82, split the industry in two. The best managed thrifts sold off part of their mortgage portfolios, retaining management rights, and therefore a safe flow of earnings.

The less fortunate sold off too much, too hastily, or if they operated in Texas and the Sunbelt areas, were threatened by catastrophic falls in property prices. Others suffered because they lacked the management expertise oeeded for diversification into mortgage banking or other new areas of credit management.

Wall Street is concentrating ao those which have avoided the pitfalls and proved successful at managing both their traditional house-financing business and at hreaking aew ground for the industry. H. F. Ahmanson and Great Western Fiaancial outstripped market forecasts by respectively quadrupling and doubling earnings for 1985. Both had record years and view the current year with confidence.

Ahmanson has had great success with a bold policy of expanding its portfolio af moothly adjustable-rate mortgages (Arms). Those are highly profitable over a period of falling rates, but also highly attractive to an interest-rate-conscious US home-buying public.

About 63 per ceat af Ahmanson's mortgage portfolio is now ia Arms, substantially more than the average for the industry. Yet Ahmanson's interest-rate margin widened by 99 basis points to 2.77 per cent last year, and its average cost af funds, at 8.03 per ceat, was the lowest for six years.

Great Western Financial, too, has aimed its policies towards Arms and short-term investments. At the year end, it had increased its Arms to 70 per ceat of the portfolia, compared with less than 40 per cent 18 months ago. On the fixed-rate mortgages sold off, Great Western maintains loan management services thet return an average spread of 41 basis points.

In the present interest-rate climate, those and other important S & Ls seem well placed for another successful year. E.F. Hutton sees an average increase of around 24 per cent in 1986 for a selected group of thrifts, with even greater potential in some stocks.

Gains of that order well outstrip those forecast for the industrial sector, where Hutton falls in with others in predicting a gain of about 14 per cent on the Standard & Poor's 500 stock earnings.

Yet the market still rates thrift stocks below industrials, a reflex response to the misfortunes in Ohio and Maryland. Ahmanson's earnings multiple of 7 understates the relative benefits of lower interest rates for the thrifts and for the average industrial company.

In fact, Wall Street is already in the process of re-rating the thrifts. Stock in Great Western has risen by 11 per cent since the beginning of the year, and Ahmanson by 24 per cent.

Chris Sherwell reports on the final days of the Philippines election campaign

The Aquino torch fires hopes

IN A BLAZE of yellow banners and primrose T-shirts, tens af thousands of exuberant Filipinos in Batangas Province yesterday shouted support for Mrs Corazon Aquino in her bid to dislodge Mr Ferdinand Marcos in this Friday's presidential election.

The support seen in Batangas, an opposition stronghold 70 miles south of Manila, follows similar displays during eight weeks of campaigning across 65 of the country's 73 provinces. Many people – including Mrs Aquino herself – think victory is within her grasp if the polls are clean.

"I am counting ao a landslide to offset any cheating by Marcos," Mrs Aquino bluntly told the press oo Saturday. "I think I will get that landslide." In Batangas yesterday she appealed many times to voters to he vigilant at the polls.

Crowds lined the streets for a glimpse of Mrs Aquino, offering the L-sign with their hands (for *laban*, meaning "fight") and showering her with confetti torn from the yellow pages of telephone directories. If Mrs Aquino's campaign is less efficiently organised or well funded than Mr Marcos's, her support seems more spontaneous and more genuine.

It is a remarkable transformation. Until 1983, Mrs Aquino was seen principally as the wife of Mr Benigno Aquino, Mr Marcos's leading political opponent. Known to everyone as Cory, she was thrust into the limelight by his assassination in August that year. Then two months ago she was catapulted into political prominence as the compromise candidate of s fractious opposition.

Carrying the torch of her husband to great effect, Mrs Aquino, who is 53, tells crowds what she learned from him and, in her singsong voice, offers them simplicity and sincerity. Occasionally they seem spellbound, looking at her as they would a saint or showbusiness superstar.

Mrs Aquino, who has clearly learned the political ropes fast, bas s very effective campaign at ather levels too. She attacks mercilessly Mr Marcos's economic mismanagement, his failure to contain an expanding guerrilla insurgency and his "20 years of misrule."

Helped by US disclosures relating to his personal wealth and his allegedly fraudulent war hero's record, she calls him a coward and a dictator, and promises wholesale changes in government.

But Mrs Aquino is without doubt the underdog, while Mr Marcos's advantages are overwhelming, as he constantly shows by his instant access to the mass media and by his ceaseless attacks on Mrs Aquino's inexperience and naïveté.

Little af that is taken lying down, however. Last moath Mrs Aquino conceded that she could not match Mr Marcos's experience; then she added: "I admit that I have no experience in cheating, stealing, lying or assassinating political opponents."

Helping her along is Mr Salvador Laurel, her vice-presidential running mate who in December finally agreed to curb his powerful presidential ambitions and support Mrs Aquino. Although still suspected by many because he once supported Mr Marcos during the martial-law period of the 1970s, his experience makes him an effective campaigner and no one doubts that the opposition ticket is the most potent one possible.

Leading US steel groups blame imports for losses in quarter

BY PAUL TAYLOR IN NEW YORK

TWO leading US steelmakers, LTV and National Steel, posted fourth-quarter losses, citing weak demand and severe price competition, particularly from imports.

Nevertheless, LTV, the natiao's second-largest steelmaker, managed to narrow its fourth-quarter net loss to $75.7m or 96 cents a share compared with a net loss of $246.7m or $3.07 a share in the same period a year ago on sales that remained almost flat at $2.06bn compared with $2bn.

The latest quarterly results include a $7m or 8 cents-a-share extraordinary gain resulting from the early retirement of debt, while the 1984 quarter included a $132m special charge.

LTV's operating loss from its steel business narrowed to $50.7m from $152m in the year-ago quarter when earnings were reduced by a $74m special charge. Sales were flat at around $1.2bn despite rising shipments and higher operating capacity.

For the full year, LTV's net loss, after a $380m special charge in the second quarter related to the closure of most operations at the company's Aliquippa, Pennsylvania, steelworks, almost doubled to $723.9m or $8.94 a share, compared with a net loss of $378.2m or $5.84 a share in 1984. Sales for the full year increased by $1.2bn to $8.2bn, mainly reflecting LTV's mid-1984 acquisition of Republic Steel.

Commenting aa the results, Mr Raymond Hay, LTV's chairman and chief executive, said: "LTV's fourth-quarter loss was caused primarily by weak market conditions and severe price erosioa in the steel industry. Steel shipments, production and operating rates improved modestly from the previous quarter, but selling prices continued the decline in 1984. A 10 per cent reduction in the average selling price per ton during the year more than offset the substantial cost improvements achieved in our steel operations."

National Steel, which is 50 per cent owned hy National Intergroup and Nippon Kokan of Japan, reported a $27.2m fourth-quarter net loss compared with a $1.9m profit in the year-ago period on sales that fell from $548.3m to $508.3m. For the full year, National Steel posted a net loss of $88.4m on sales of $2.08m compared with net earnings of $20.8m on sales of $2.29bn a year ago.

Mr Robert McBride, president and chief executive, noted: "Two major negative factors affected National Steel's performance in 1985 – severe price discounting in the marketplace and high levels of imported steel that flooded the country during the past year."

National Steel's US joint-venture parent, National Intergroup, posted a fourth-quarter net loss of $1.9m or 27 cents a share, compared with net earnings of $17.8m or 68 cents s share a year ago.

For the full year, National Intergroup posted a net loss of $15.2m or $1.44 s share, compared with net earnings of $13.7m or 9 cents a share in 1984 on sales that increased to $2.4bn from $2.3bn.

National Intergroup's losses from continuing operations totalled $19.05m in the final quarter and $85.3m for the full year, compared with net earnings from operations of $12.97m in the 1984 quarter and a loss of $14.51m for the year.

● Weirton, the employee-owned steel group spun off from National Steel, posted fourth-quarter net earnings of $12.5m compared with $12.4m a year earlier. Full-year net earnings edged marginally higher to $61m from $60.6m on sales that increased to $1.2bn from $1.1bn.

Nasa finds clue to shuttle explosion

By Our New York Staff

EXPERTS investigating the cause of the Challenger space shuttle tragedy last week appear to be homing in on the possibility that one of the two solid-fuel booster rockets sprang a leak, directing a blow-torch-like flame on to the huge external fuel tank. The leak may have occurred as much as 15 seconds before Challenger exploded in a ball of fire, 72 seconds after take-off and 10 miles above the Atlantic, killing its seven-member crew.

Yesterday the National Aeronautics and Space Administration (Nasa) released computer-enhanced videotape images of the final seconds of Challenger's fatal and brief flight. The video images show a plume of flame emerging from the side of the shuttle's starboard solid-fuel booster rocket before the external liquid fuel tank – containing liquid oxygen and hydrogen – exploded.

In a carefully worded statement Nasa, which cootinues to refuse to speculate on possible causes of the tragedy, termed the flame "unusual." Dr William Graham, Nasa's acting administrator, on Saturday showed a private group of Congressmen similar photographs that reportedly show an "abnormal" white spot appearing on the solid-fuel rocket – which is strapped to the external fuel tank – about 10 seconds before the craft exploded.

The photographs and enhanced videotape images appear consistent with a theory that the shuttle exploded after one of the two solid-fuel boosters burst a seam or ruptured, directing flames on to the relatively flimsy external liquid fuel tank, burning a hole through its skin and igniting the explosive mixture inside.

Such a theory is also supported by reports that Nasa computer files show a small but sudden drop in power in one booster rocket about 10 seconds before the explosion. On Saturday the New York Times quoted a unidentified source close to the inquiry as saying that Nasa data showed a pressure drop in one of the solid-fuel boosters and a loss of about 100,000lb of its 2.5m lb of thrust.

The newspaper also reported that Challenger's three main engines, fed by the external fuel tank, shut down almost immediately after the drop in booster-rocket power, suggesting that the liquid oxygen line running under the external fuel tank skin had been ruptured. At the same time, the nozzles of the three shuttle engines and the two solid-fuel boosters swivelled to one side as the automatic steering mechanism apparently tried to correct for the uneven drop in power.

Some experts believe that flames shooting out of the side of one of the boosters might have gone undetected by sensors and computers aboard Challenger.

Westland seeks support of shareholders

By Lionel Barber in London

THE BOARD of Westland, Britain's ailing belicopter manufacturer, is to appeal to small shareholders this week to back its favoured rescue plan put forward by Sikorsky, the US helicopter maker, and Fiat of Italy.

With seven days to go before the extraordinary general meeting called to vote on the Sikorsky/Fiat rescue, small shareholders are likely to prove decisive on the result.

The Westland board's appeal will come in the form of a circular today or possibly tomorrow. It is aimed at countering the impact of the rival European consortium's 130p-a-share tender offer for 21 per cent of Westland's equity.

Sir John Cuckney, Westland's chairman, will tell shareholders they must decide whether to accept a short-term cash gain or look to revitalising Westland

The European response is likely to he limited. Mr David Horne, managing director of Lloyd's Merchant Bank, advising the consortium, has been told by the Takeover Panel not to make public statements about the merits of the European proposal since he launched the tender offer last week.

However, Mr Alan Bristow, the former helicopter operator and fervent opponent of the Sikorsky/Fiat proposal, appealed to small shareholders yesterday to accept the tender offer as a first step towards voting for the European plan.

Murdoch rules out use of UK print unions

BY DAVID BRINDLE IN LONDON

MR RUPERT MURDOCH, chairman of News International, said yesterday that productioa of his British newspapers would never return to central London and would never again he undertaken by the printworkers' unions.

He said he would "stand by" the workers, many of them members of the electricians' union EETPU, who have been producing The Times, the Sun, The Sunday Times and the News of the World at the company's new plant in Wapping, east London, since print union members went on strike 10 days ago.

Miss Brenda Dean, general secretary of the print union Sogat '82, made it clear her union was prepared, in defiance of court injunctions, to continue instructing members working in newspaper wholesale distribution to refuse to handle News International titles.

Asked if this did not mean breaking the law, she said: "Wa are not ducking and diving. There is no point. Too much is at stake for these people."

News International executives are today expected to meet legal advisers to consider bringing actions against Sogat. The union stands to incur stiff penalties for either contempt of court or damages, or both, followed by possible sequestration of assets if defiance of the court continues.

Mr Murdoch's stark declaration of intent came in spite of unspecified production difficulties at the Wapping plant on Saturday night, causing a shortfall of about 500,000 copies of The Sunday Times, some 40 per cent of regular sales.

At the same time, about 1.8m copies of the News of the World were lost when Sogat members at Express Newspapers' plant in Manchester refused for the second week to handle the contract print run. News International printed 200,000 extra copies of the paper in Glasgow, but there remained a 28 per cent shortfall of regular sales.

Mr Murdoch, interviewed ao BBC television, said "nothing went wrong" with the Sunday Times production. He believed 70 per cent of normal total output was "wonderful" in the light of earlier scepticism about ability to print any papers at all without Sogat and the National Graphical Association.

Affirming that News International would never return to its former printing plants and would never allow Sogat and the NGA into Wapping, Mr Murdoch said: "I feel like a man who has been on a life sentence and has just been released. I feel a wonderful sense of freedom."

Mr John Grant, the EETPU's chief communications officer and former Labour and SDP MP, said on the same programme that his union would have "a pretty good answer to all the charges" when the TUC General Council met on Wednesday to take a final decision on suspension of the union over the Wapping issue.

World Weather

		°C	°F			°C	°F			°C	°F			°C	°F
Ajaccio	F	10	50	Edinburgh	C	3	37	Manila	–	–	–	Rio de J'o	–	–	–
Algiers	S	14	57	Faro	S	12	54	Melbourne	–	–	–	Rome	R	12	54
Amsterdam	Sn	1	34	Florence	C	9	48	Mexico City	–	–	–	Salzburg	R	5	41
Athens	R	15	59	Frankfurt	C	3	37	Miami	R	17	63	San Francisco	R	14	57
Bahrain	–	–	–	Funchal	R	12	54	Milan	R	4	39	Seoul	Sn	-1	30
Bangkok	–	–	–	Geneva	C	1	34	Montreal	Sn	-11	12	Singapore	S	-1	30
Barcelona	S	12	54	Gibraltar	F	15	59	Moscow	S	-11	12	Stockholm	–	–	–
Beirut	–	–	–	Glasgow	C	3	37	Munich	C	-1	30	Strasbourg	C	1	34
Belfast	Sl	3	37	Guernsey	C	4	39	Nairobi	S	28	82	Sydney	–	–	–
Belgrade	Sn	0	32	Helsinki	R	-6	21	Naples	C	13	55	Taipei	–	–	–
Berlin	Sn	-3	27	H. Kong	–	–	–	Nassau	–	–	–	Tangier	F	12	54
Biarritz	R	6	43	Innsbruck	F	3	37	New Delhi	–	–	–	Tel Aviv	S	19	66
Bombay	–	–	–	Inverness	C	3	37	New York	F	5	41	Tenerife	S	15	59
Bordeaux	Sn	1	34	Islamabad	–	–	–	Nice	F	9	48	Tokyo	–	–	–
Brussels	C	2	36	Istanbul	F	9	48	Nicosia	–	–	–	Toronto	C	-6	21
Budapest	D	2	36	Jakarta	–	–	–	Oporto	C	7	45	Tunis	S	16	61
B Aires	–	–	–	Jersey	C	3	37	Oslo	C	-3	27	Valencia	S	11	52
Cairo	–	–	–	Jo'burg	T	22	72	Paris	S	2	36	Venice	R	7	45
Cape Town	S	29	84	Las Palmas	–	–	–	Peking	S	-3	27	Vienna	C	2	36
Caracas	–	–	–	Lisbon	F	11	52	Prague	C	2	36	Warsaw	S	-6	21
Casablanca	F	12	54	London	C	4	39	Reykjavik	R	6	43	Washington	F	4	39
Chicago	C	1	34	Los Angeles	C	12	54	Rhodes	F	15	59	Zurich	C	0	32
Cologne	C	1	34	Luxembourg	C	1	34								
Copenhagen	F	0	32	Madrid	F	7	45								
Corfu	F	15	59	Majorca	F	12	54								
Dallas	C	18	64	Malaga	S	14	57								
Dublin	C	4	39	Malta	S	15	59								
Dubrovnik	C	13	55	Manchester	R	3	37								

Readings at mid-day yesterday:

C–Cloudy D–Drizzle F–Fair H–Hail Fg–Fog R–Rain S–Sun Sl–Sleet Sn–Snow T–Thunder

Merrill strikes historic bargain in Tokyo

Continued from Page 1

ever, were congratulatory arders to mark the auspicious occasion – a common business practice in Japan.

As the new Tokyo exchange members have only around 200 employees each, compared with the thousands employed by Japanese firms, most expect their growth to come from out-of-hours, over-the-counter trading from abroad.

"Imagine you wake up in New York and you want to buy Honda and dump Ford. Only a handful of Japanese securities firms would be willing to take that risk and no Japanese firm will offer you comprehensive research on both companies," claims Mr Tom Blankley, managing director of Merrill Lynch Japan. "We will sell Honda and buy Ford and hold the risk until Tokyo opens. And we will do that in Europe, New York, wherever," he says.

The domestic Japanese market, Mr Blankley admits, will be the hardest nut for the foreigners to crack. "We have to bring clients to the Japanese market," he says.

Currently, foreigners hold about 5 to 6 per cent of the shares traded on the Tokyo exchange. In dollar terms, its annual turnover is about half that of the New York Stock Exchange.

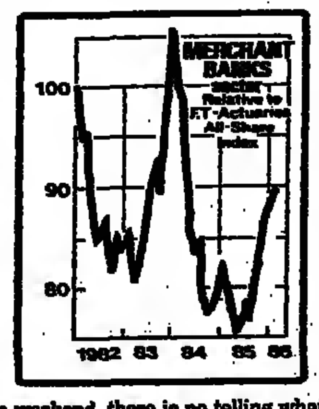
THE LEX COLUMN

The pre-emption of placings

It is all very well to threaten expulsion from s market if there is no other market to go to, and for years the London Stock Exchange has been able to enforce the letter of the Yellow Book through the implicit understanding that the alternative to compliance was suspension. Last week, however, the Stock Exchange more or less acknowledged that enforcement of all the rules on equity issues was a luxury it could no longer afford. With the central market under threat from all sides, the Stock Exchange simply could not allow a major company to call its bluff. If XYZ plc were to ignore the Yellow Book, the ensuing suspension might he more damaging to the Stock Exchange than to XYZ, which could continue to be traded elsewhere.

The exchange's Quotations Department has produced a discussion paper which, if implemented, would substantially loosen the Yellow Book rules on new issues and pass responsibility for the defence of pre-emptive rights to the shareholders. The new issue amendments are the less controversial. Until now, any company seeking a listing has had to conduct an offer for sale if the securities being sold have a value of over £3m. This estimable rule has meant that the general public has a bite at every sizable new issue; sponsors cannot just pass attractive new securities on to the books of their discretionary clients.

The exchange recognises, however, that the cost of an offer for sale can be onerous for a small company and, more to the point, that offerors may in future prefer not to list their shares on the Stock Exchange. The committee therefore recommends lifting the threshold on placings to £25m and relaxing the detailed placing requirements. The exchange is considering rules to ensure a proper spread of securities, but quite what they are we know not.



Fair play

While the proposed rule changes on new issues scarcely advance the cause of wider share ownership, to which the exchange is committed, or encourage fair play in the primary market, they are unlikely to cause much of a storm in the Square Mile. The Stock Exchange can legitimately argue that it is merely moving with the times.

It can of course advance the same argument in relation to pre-emptive rights. The introduction of substantially more capital to the domestic securities market is bound to widen the funding opportunities open to public companies. If an investment bank as small – by international standards – as Morgan Grenfell could shoulder the entire risk of the recent Guinness underwriting over a weekend, there is no telling what the major US houses will be able to take on board by way of equity issues. Even the most traditional UK issuing houses are acknowledging, in word and deed, that the rights issue may gradually give way to the direct placing of equity at a narrow discount.

The readiness of financial intermediaries to place equity with investors without recourse to a rights issue is matched by an enthusiasm on the part of issuers themselves. ICI, for example, has never disguised its preference for issuing equity as and when it pleases. The Quotations Committee currently insists that any company which issues equity securities must seek its shareholders' permission even though the company may have obtained a general authority at its annual meeting to issue equity to new shareholders up to a specified limit – generally 5 per cent of the existing capital. It is this requirement, that the company obtains shareholders' approval twice over, which the committee is proposing to abandon. The rule change would mean that, so long as shareholders gave authorisation in advance, companies would be able to issue as much equity as they pleased without offering any of it to existing shareholders.

In support of its argument, the committee points out that there is greater foreign interest in UK equities which is hard to satisfy through the conventional rights issue. If a company can broaden its shareholding base by issuing equities to foreign buyers at close to the market price, existing shareholders should have nothing to complain about.

What the committee omits to mention, however, is that companies have already satisfied that foreign demand by finding loopholes in the Yellow Book rules. In 1984 ICI added equity warrants to a US debt offering and last year BTR took the process a stage further. Having failed to obtain Stock Exchange approval for an issue of equity to continental European investors, it offered them instead a package of bonds on terms designed to encourage early conversion into equity. Both companies were in effect offering new equity without recourse to their existing shareholders.

The Stock Exchange is not, however, recommending the abandonment of pre-emptive rights. On the contrary, the committee insists in its paper that the rights issue is undoubtedly the fairest method of raising fresh capital and points out that the principle of the pre-emptive right is enshrined in both UK company law and the second EEC directive. It hopes that the rights issue will be preserved and is passing responsibility for the matter over to the institutions.

It may be that the institutions will rise to the challenge although, in doing so, they would be acting against their own best interests. It is the biggest shareholders, after all, that stand to gain from receiving shares at a discount in a direct placing. Aunt Agatha is unlikely to receive the call from Merrill Lynch when XYZ plc is marketing a new tranche of shares.

Small shareholders

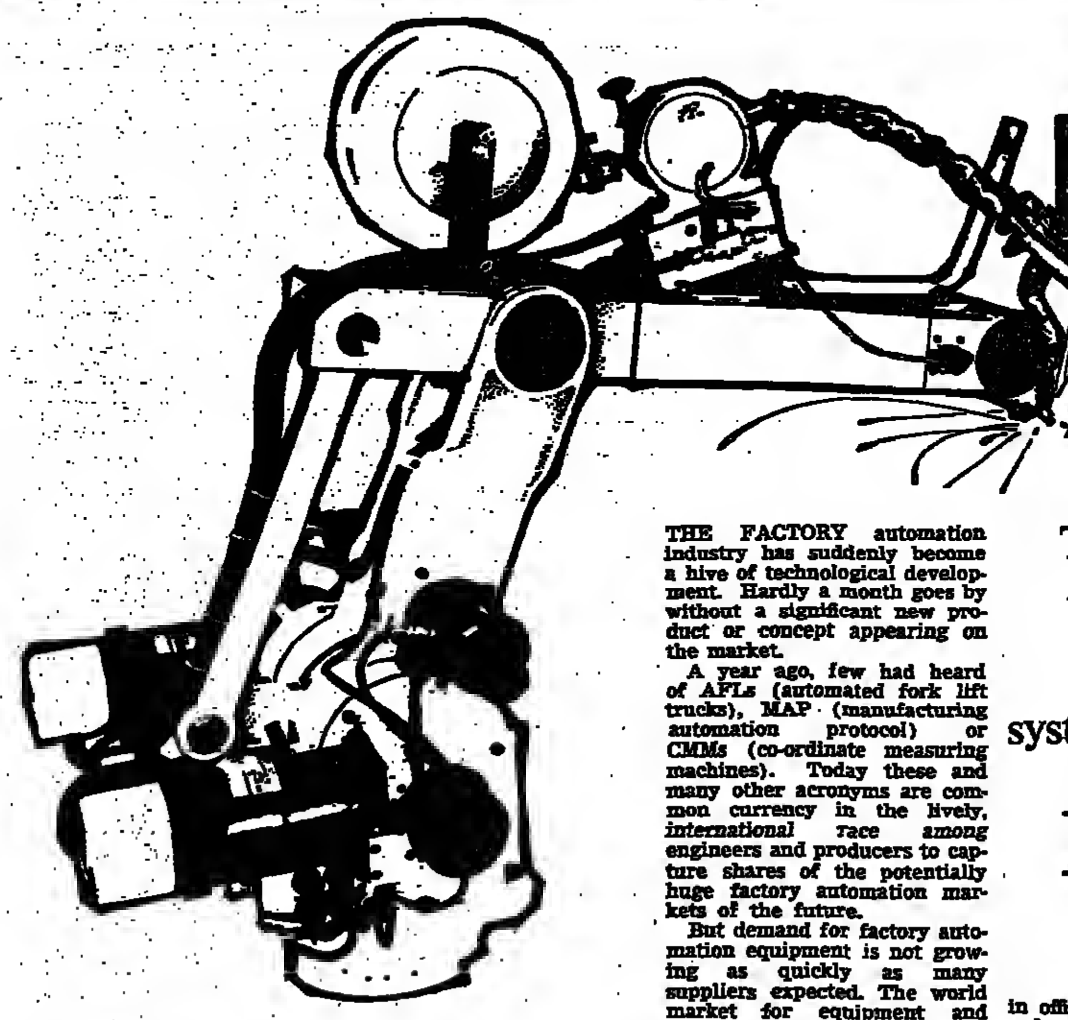
Those same institutions will in most cases hold a majority of the votes at an annual meeting and, after a month which has seen even the most upstanding institutions sell out of Westland at a price way above the market, it would be optimistic to suppose that they will always rally to the defence of small shareholders. It may be that the Investors Protection Committees will lay down clear guidelines about how much equity a company may issue without recourse to its shareholders, although here again the precedents are not encouraging. The IPCs took a high moral line over the Reuters flotation and then gave way when more Reuters equity became available.

However responsibly the institutions may behave, it is questionable whether a principle endorsed by company law should be left to the interpretation of shareholders. If the pre-emptive right is safe with the institution, then perhaps the Take-over Code and the Substantial Acquisition Rules should also be a matter for shareholders' discretion.

The rights issue, for all its inadequacies, remains a fair and efficient method of distributing equity, even in an inhospitable market. The institutions could make it better still by agreeing to negotiate underwriting commissions and the duration of their underwriting exposure. They might also call on managements to provide a sounder justification of their need for new equity. It would be in hardly anyone's interest for the pre-emptive right to go by default.

SECTION III

FINANCIAL TIMES SURVEY



Manufacturing Automation

Technological development has opened the way to more flexible shopfloor automation. But the market for more ambitious integration systems has grown much more slowly than expected

Robots travel slow road

By IAN RODGER

THE FACTORY automation industry has suddenly become a hive of technological development. Hardly a month goes by without a significant new product or concept appearing on the market.

A year ago, few had heard of AFLs (automated fork lift trucks), MAP (manufacturing automation protocol) or CMMs (co-ordinate measuring machines). Today these and many other acronyms are common currency in the lively, *international race among* engineers and producers to capture shares of the potentially huge factory automation markets of the future.

But demand for factory automation equipment is not growing as quickly as many suppliers expected. The world market for equipment and systems is about $50bn, bot forecasts of 25 per cent annual growth rates have been scaled down in the past two years because of sluggish sales in many sectors.

Some companies have been badly caught out by leck of growth. General Electric of *the US geared up in 1982* to handle e surge of big contracts, but found that few were forthcoming. It has scaled down operations after suffering losses of $120m in three years.

No one doubts thet e boom in demand for automation equipment and systems will come and that computer integrated manufacturing (CIM) will become a reality. The factory is increasingly recognised as an important weapon in manufacturers' competitive strategy, and entomation has a big role in maximising performance. But implementation is taking longer than *some* expected.

This is reminiscent of a similar period of disillusionment in office eutomation more than a decade ago. *In the 1960s, the* emergence of mini-computers and technology enabling computers to be linked through telecommunications lioes made possible the development of on-line management information (MIS).

Many starry-eyed growth forecasts were made. But by the early 1970s, it was clear that MIS schemes were very difficult to design and [illegible]. Even today they are not widely used in corporate offices.

Similarly, the factory automation field has been jolted by big technological developments which, in turn, has led to some overly rosy forecasts of demand.

Until a few years ago, the potential applications of factory eotomatioo equipment were limited. The technology then available meant that eutomation equipment had to be tailor-made to produce only one type of prodoct, and so could only be *justified if that product* was made in very large volume. Automation tended to be applied only in the automotive and *domestic* appliance industries, and process industries such as chemicals and paper.

The emergence of low-cost programmable logic controllers (PLC) and computer numerical controls (CNC) in the late 1970s opened the way to more flexible entomation on the shop floor. Aotomation equipment can now be easily re-programmed, enabling it to make a variety of products. Manufacturers that produce many things in small volumes — and they are the vast majority — can now contemplate some forms of automation.

This has given e big boost to demand for the most straightforward types of automation equipment, such as compoter aided design systems (CAD), robots and CNC machine tools. But the market for the more ambitious systems that integrate these and other machines under compoter control has *been much slower to develop.* It is probably premature to talk of markets for advanced factory automation systems: at this stage, both the suppliers and the potential customers are feeling their way.

On the supply side the push for CIM systems creates demands for other technologies to take over functions such as handling, assembling and inspection, that have required a lot of skilled labour up to now.

In the past year probably the most exciting developments have been in vision systems. The potential is enormous, especially in inspection and assembly, where they enable machines to identify parts and to verify their shape with 100 per cent reliability. One estimate suggests that by 1992 more than 40 per cent of inspection systems in manufacturing will have vision capabilities.

A plethora of new vision systems have come on the market. There are hundreds of companies in the US and Europe, many very small, offer*ing solutions to problems of* non-contact sensing, high-speed operation, dimensional accuracy and the ability to examine small or restricted areas. Frost & Sullivan estimates that the European market for vision systems is worth $190m and will be $330m in 1989.

Heavy materials *handling is* another sector *in* rapid change. Automated guided vehicles (AGVs) are increasingly common in factories, but most are tied to fixed guidance systems such as wire rails buried io the floor. Some suppliers are developing free-ranging AGVs that will follow routes provided from computers.

Meanwhile, a big effort is being made to simplify electronic communication between the increasing variety of machines involved in factory antomation. At the centre of this effort is MAP, the manufacturing eutomation protocol developed by General Motors of the US.

GM, which is one of the biggest spenders on eutomation equipment, hoped that if it required all suppliers to make MAP compatible equipment, MAP would become an industry standard.

The MAP initiative has already turned into a bandwaggon, with such eutomatioo suppliers as Fanoc of Japan and Gould, Digital Equipment, Honeywell and Hewlett-Packard of the US following GM. Last November, GM demonstrated e fully-aotomated manufacturing system for making toys, using equipment from 21 suppliers all joined by MAP.

All this activity is bewildering for potential customers and, to the dismay of the suppliers, most are keeping their hands in their pockets.

Continued on Page 8

UK Engineering Industry

		All computer users*	Employees: Under 50	50-200	200-1,000	More than 1,000
% using AMT:						
Direct numerical control	Installed	13	16	10	15	18
	Priority	17	19	14	14	20
Flexible manufacturing systems	Installed	8	3	10	14	18
	Priority	16	9	18	22	27
Programmable logic controllers	Installed	12	12	10	19	17
	Priority	6	7	6	6	11
Automated welding/joining	Installed	3	2	2	6	15
	Priority	7	5	8	4	5
Other automated assembly	Installed	4	4	2	6	12
	Priority	11	6	12	15	12
Automated product finishing	Installed	3	3	2	5	6
	Priority	6	5	4	9	11
Automated testing	Installed	9	2	8	18	21
	Priority	11	9	10	15	12
Automated materials handling	Installed	3	1	3	5	11
	Priority	9	6	8	13	19

* Computer users represent 37 per cent of UK engineering plants.

Source: 1985 Engineering Computers Survey/DTI. © Findlay Publications.

Contents

Manufacturing Automation 2

Tough for adolescent industry

Robotics

JOHN DWYER

IT IS tough in industrial robots. The market shows less sign of maturity than of adolescence: growth has been uneven and in one or two cases the parents wish the robot offspring would find another home.

A sign of the times is Rediffusion's decision to float off its robot subsidiary. It had sold only 14 systems in three years against a commitment to its US partner, American Robot Corporation, to take 160 ARC machines ever four years. Rediffusion Robots was making no money and, at least in terms of profits, even Unimation and Cincinnati are faring no better. Cincinnati's UK robot eperation has now been combined with problematic machine-tool business.

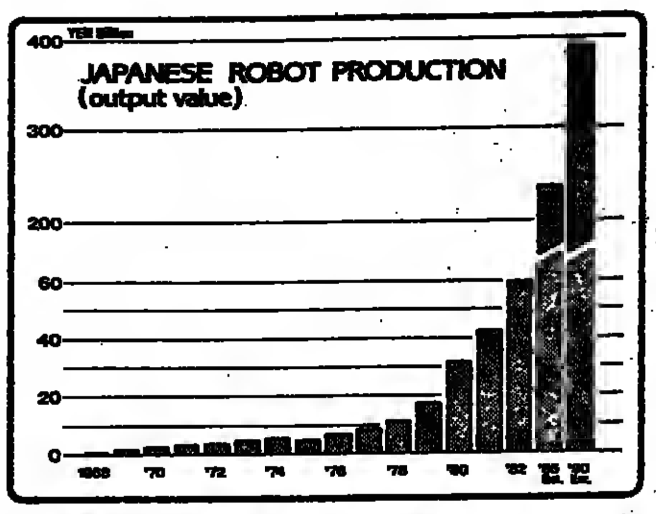
One of the noisier of the bottom-end upstarts, Pendar, backed by the Welsh Development Agency and 3i, has gone into receivership. Another casualty is Modular Robotic Systems and the last rites were read over another British robot, the Pam 2, when ASEA of Sweden recently acquired VS Technology and its Remek offshoot.

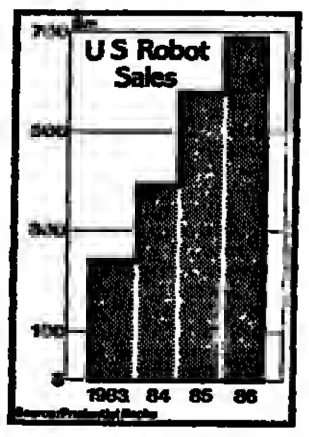
Customers just do not seem to be interested—and small wonder, according to a survey by Thorn EMI. It found industry believed robots will not fit existing processes, are uneconomic and the technology is inadequate.

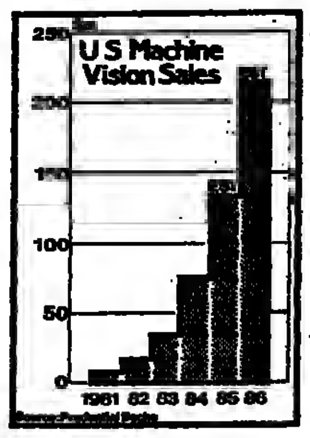
Investment in traditional heavy industry has been either curtailed or postponed and the spot welding market on which many of the robot builders have come to rely, particularly in the car industry, has reached saturation. It is also under pressure from glueing and bonding. British Robot Association figures for 1985 are unlikely to give spot welding the 35 per cent growth it showed in 1984.

But the figures are likely to show an upsurge in light assembly, particularly for such things as small electric motors and electronics. The small electric motor used to be a collection of small pieces which took a long time to put together. Now most of a motor can be moulded so that the pieces go into the casing from the top. This makes it is so easy to assemble that even a robot can do it.

This and the electronics market call for highly accurate and fairly expensive machines of a type few British makers excel in. Leaders are Toshiba (imported by Evershed) and Sankyo Seiki (sold by IBM). National Panasonic's machines are likely to have a big impact on the UK market now that Panasonic has signed an agreement with Altek of Cambridge.







According to Frost & Sullivan, the use of robots in electronics will increase from 17 per cent of a $722m robot market in 1983 to 22 per cent of a $6bn-plus industry in Western Europe in 1990. Competition has caused large amounts of investment and development time to be put into changing products to make them better suited to assembly robots.

The redesigns may mean changing board layouts to make automated assembly easier. In many cases, even for small companies, they have meant some serious talking to suppliers whose integrated circuits, chokes or edge connectors have not held to a consistent shape. One way electronics suppliers have cut their headaches is to pack components into aspirin-type bubble packs. The packs, which may contain integrated circuits, coils or similar devices, have location pads which allow a blind robot to pick them up and insert them precisely.

The big electronics automation story, however, has been surface-mounted devices (SMDs). They are smaller, designed for automated assembly, and offer cheaper production than conventional electronic assembly. Mr Alex Stark, of Mullard says half the world's electronic circuits will use SMDs by 1990 — although fewer than that in the UK because its consumer electronics industry has disappeared.

SMDs need a different production approach than components with leads. High-volume SMD machines dislodge components easily. Conventional boards can be checked after production and faulty or dislodged components replaced, but once an SMD board has been soldered it cannot be rectified. Electronics companies are installing vision systems to check each board and instruct a robot to correct any badly placed components before they are fixed on the board.

High packing densities for conventional components mean the leads have to be accurately cropped. Robots can now clip all the leads to the same length regardless of warps in a board.

A lead-clipped cell costs about £30,000, half that of a couple of years ago. But it seems unlikely that suppliers will make any money until their price comes down at least another third. It will happen within the next year or so, but only after more casualties.

As the price falls, three other things must happen:

● Better robot simulation, with easier built-in off-line programming. This enables the user to feed a new programme to a robot without taking it out of commission to teach it new tricks. It saves money and, being safer, may save lives.

One system which has caught attention is made by Robcad, of Israel, but Intergraph's system has to be a front-runner, if only because it was developed with the world's largest robot company, GMF, the joint venture between General Motors and Fanuc. GMF dominates the US robot market, though it has yet to make serious attempts to break into Europe.

● The second is the development of fixed price kits of parts for add-on conveyors and feeders that customers can shop for in catalogues. The robot market will continue to suffer until its products are available as a series of building bricks.

● Related to this is the abandoning of systems work. The ideal is to sell the equipment in boxes and let someone else organise the project into which it fits. This applies equally to the robot vision market, where more casualties are due. Until robots and vision systems are more modular and easily sold off the shelf, no one will see any money from either.

The past year saw the collapse of one UK vision company with an excellent product but no money, Erlebach, and another with state backing and an over-priced product better used in development than on the shop floor, British Robotic Systems. More hopefully, venture capital company 3i has just put more than £750,000 into Visual Machines of Manchester.

In the US, machine vision is dominated by companies like Automatix, View Engineering, Machine Vision International and Perceptron. The most visible US company in the UK is Itran. Its programming approach is praised even by competitors. Itran, no longer crippled by high dollar-exchange rates and producing cheaper products, is causing UK vision companies concern.

The European vision systems market, now worth about $190m—of which Frost & Sullivan says 60 per cent is in inspection systems—will be worth about $330m in 1989.

There is a hopeful straw in the gale. If the UK follows the example of the US then after a continuing shakeout in 1986, the analysts say, better times are ahead. They would need to be good times indeed.

John Dwyer is consulting editor of Automated Factory, a Financial Times FinTech newsletter.

A 600 Fanuc Model 3 robot stacking palletised packages (left). Another form of robot (right) developed by Ferranti in Dundee being programmed for flexible laser welding of a car door

PROFILE: FANUC

BY CARLA RAPOPORT

Young company far ahead of the pack

IN THE world of computerised numerical control systems few companies can touch Fanuc, the young Japanese company nestled near the base of Mount Fuji.

Since its listing on the Tokyo Stock Exchange in 1976, Fanuc's net income has grown at an average annual rate of 57 per cent, with sales up an average of 37 per cent per year.

According to Merrill Lynch, Fanuc is also one of Japan's most profitable companies, with an operating profit margin of about 35 per cent.

"We believe Fanuc supplies 45 to 50 per cent of all CNC systems manufactured in the world and about 65 to 70 per cent of all those manufactured in Japan," says Mr Ben Moyer of Merrill Lynch Japan.

Lack of strong competition, he points out, plus good product quality and high level of service has allowed the company to maintain price leadership in the field and avoid costly price-cutting wars. Further, Fanuc has long been committed to continual plant improvements and product up-dates.

For the current year, ended this March, Fanuc recently announced it expects sales up by 23 per cent to Y175bn. CNC systems for machine tools, the company said, are expected to increase a healthy 19 per cent to Y138bn, while unit sales of industrial robots will have doubled to around 3,000 sets worth Y21bn.

Japanese machine tool orders

(Y bn)

Financial year to March	CNC Machine Tools	% Change	Total Machine Tools	% Change	Domestic Auto Industry	% Change	Exports	% Change
1976	40.3	8.3	150.7	−18.3	21.4	6.8	35.6	29.9
1977	70.1	73.9	242.5	60.8	61.2	186.6	60.7	70.2
1978	82.1	71.1	271.0	11.8	62.9	2.8	79.8	31.6
1979	123.3	50.1	325.9	20.3	61.9	−1.6	88.5	10.9
1980	220.3	78.7	489.1	50.1	114.4	84.6	130.6	47.0
1981	323.1	46.7	631.7	29.2	169.0	47.8	167.0	27.9
1982	329.2	1.9	618.9	− 2.0	139.3	−17.6	151.3	−9.5
1983	286.5	−13.0	493.4	−20.3	100.6	−27.7	107.3	−29.0
1984	375.0	30.9	580.6	17.7	98.3	−2.3	144.4	34.5
1985*	498.0	32.8	760.0	30.9	131.0	33.3	200.0	38.5
1986*	560.0	12.4	845.0	11.2	150.0	14.5	235.0	17.5

* Estimates
Orders are for 68 companies
Source: Japan Machine Tool Builders Association, Merrill Lynch estimates.

In industrial robots, one of Fanuc's major customers is a joint venture set up with General Motors, called GMF. Fanuc supplies about 65 per cent of its robots to the joint venture. Merrill Lynch estimates that in 1984, GMF became the largest US supplier of robots with sales slightly over $100m and a share of total US robot shipments of about 30 per cent.

In order to hold on to this lead, Fanuc is investing heavily in new plant. This year, out of a total of Y36bn capital outlay, Fanuc is putting Y25bn into a second robot assembly plant as well as nine technical centres throughout Japan.

Further, one of the key's to Fanuc's success in the industrial robot area, is its insistence on the in-house development of robotic control devices and servo-motors.

These components, which make up as much as 50 per cent of the value of a robot, have been constantly improved upon since Fanuc built its first robot in 1974.

In the CNC systems area, Fanuc is moving toward programmable systems which allow the most flexibility for its customers. In earlier model, master programs for the machine tool or robot were designed by Fanuc and were fairly rigid in application. As a result, competitors who bought Fanuc components could offer similar systems. The new Fanuc CNC systems, however, allow the machine tool builders to design their own programmes with Fanuc's assistance, if needed.

Looking ahead, analysts predict Fanuc will gain strength in CNC software applications and in overseas production. Moyer of Merrill Lynch predicts that software application could become a proprietary business for Fanuc in future.

"For smaller machine tool builders without the capacity of in-house software development, the availability of ready-made software could become an incentive for purchase of Fanuc hardware," he says.

Moyer also predict that within the next few years, Fanuc could double its overseas assembly to 300-600 units per month. Currently, Fanuc is making about 150 units in the US, 100 a month in Europe and about 25 a month in Korea.

Manufacturing Automation 3

Valve-guide assembly and insertion at Jaguar's Radford, Coventry, plant produced by Dainichi Sykes Robotics

Limited success in low volumes

Small Batch Production

ANNA KOCHAN

MANUFACTURING industry is having to automate small batch production to supply a more demanding market. Automation involves considerable investment and risk which has, in the past, restricted use to large automotive, aerospace and defence companies, but machine tool companies have come up with a solution for even the least experienced manufacturer.

Low-volume automation can be viable only with equipment that can handla a wide variety of products. The same equipment should be abla to change from producing one product to another with minimum delay and stay occupled through two or three shifts.

It has to be computerised and involves considerabla expensa on software developmant, mainly because each application is highly customised. Equipment of this kind, often referred to as a flexible manufacturing system (FMS), bas gained popularity in recent years but it is expensive, difficult to justify and has found limited success.

The most advanced FMS being installed in the UK, for example, is a multi-million-pound investment at British Aerospace in Preston. It will include eight machining centres, two co-ordinate measuring machines, a central cutting tool store, automated storage and retrieval system for palletised parts, intermediate buffer store and automated vehicles.

The system will use the Automax twin-spindle horizontal machining centre launched by Marwin Production Machines in 1984. This was designed along the lines of the Molins System 24 built in 1967, thought to be the forerunner of today's FMS.

The Automax machines handle billets of metal mounted on pallets fed borizontally into tha machine and then rotated for horizontal machining, A double-sided pallet loading mechanism gives e 30-second pallet change-over.

Each machine bas three 63-tool crates arranged to allow tha crates to shuttle into position. Transfer arms change the tool in the spindles in 10 seconds.

The handling of cutting toola is one aspect of FMS which bas gone through dramatic development. In 1981 scepticism greeted Yamazaki's use of an overhead gantry to transfer tool drums between tool-setting stations and machines to enable antomatic supply. The cost was thought unjustified and the problem of tracking the tools insoluble. Today, almost every new FMS incorporates automatic tool transfer.

In the £2.5m FMS that JCB Transmissions is building at its Wrexham plant, the 10 Scharmann machining centres are being supplied with two tool magazines. One is permanently attached to the machine and the other is shuttled back to a tool preparation area on an AGV when worn tools need to be replaced or new ones collected.

With such large numbers of cutting tools moving round the machining systems—the JCB system may have more than 1,000 in service at one time—it is important to keep track of whereabouts and performance.

Many FMSs use bar code labels on shanks, with tool-setting machines linked into the FMS computer system. But errors can occur. The labels are apt to come off while different tools can often look similar, causing mistakes when humans get involved.

Several West German cutting tool manufacturers have developed a programmable micro-processor-based tag embedded in the tool shank. One of the first applications is in the £1.5m FMS at Ingersoll Rand in Wigan, being supplied by TI Machine Tools.

Each of four machines has a magazine of 120 tools and each tool has a Bilz chip-based tool-deta carrier in its shank. The carrier is programmed with a tool identification number and tool offset values at the presetting machine. This information is read as the tool goes into service at the machine tool.

In theory it is possible to record details of tool life data on the carrier but this is not being done at Ingersoll Rand because of the complexity.

The FMS installations mentioned so far were all highly customised, each involving a large number of suppliers. The risk is not merely financial but also technological. For any but tha most knowledgable user, an FMS installation has been a terrifying challenge.

But this is changing. At the 6-EMO exhibition in Hanover last antumn, several machine-tool builders showed standard off-the-shelf solutions to flexible machining which should appeal to even the most inexperienced of users.

The off-the-shelf solutions are also modular. They include a variable number of machine tools, variable capacity of tool storage and pallet storage, cell controller and suite of software programs. All the user has to do is select the modules. West German companies Deckel, Heller, Huller Hille, and Fritz Werner demonstrated variations as did Makino and Yamazaki of Japan.

For Fritz Werner the standard solution is not new. Having demonstrated its design at Paris in June 1983, the company claims to bave sold almost 50 systems varying from two machining centres to 12.

The first delivered in the UK should be completed this year for Mirrlees Blackston of Stockport, the diesel engine manufacturer. The £1.9m system incorporates a line of four machining centres between a line of pallet setup stations and a line of tool racking. A rail-guided cart at the rear changes tools.

Another rail-guided cart at the front shuttles pallets between the stands and machine tebles. Mirrlees intends to operate the system unmanned for as long as four bours between shifts or for even longer at weekends.

Makino has also found a customer for its off-the-shelf FMS in Cummins Engines at Shotts, Scotland, where a three-machine system is being built. It uses a rail-guided stacker crane to transfer pallets between the machine tools and the pallet racking but will not employ auto tool transfer.

These new developments from the machine tool manufacturers should enable a larger proportion of industry to take advantage of flexible manufacturing techniques.

Anna Kochan is editor of The FMS magazine.

PROFILE: JAGUAR/DAINICHI SYKES

Islands of accuracy in tailored system

VOLUME car-manufacturers were among the earliest companies to introduce robotics and other automation systems, making substantial cost savings and improving quality. But a different approach is being taken by Jaguar Cars to achieve the same ends.

The Coventry-based company, while riding the crest of a strong recovery in demand for its cars, has accepted that it must benefit from the cost-effectiveness and quality advantages of automation, but at the same time retain the attention to detail which makes Jaguar unique.

It is also gearing up for the launch of its long-awaited new model, the XJ40, later this year. This has provided an ideal opportunity to introduce a programme of automation being carried out in conjunction with Dainichi Sykes Robotics of Preston.

Jaguar and DSR have entered a long-term technical collaboration agreement covering introduction of advanced manufacturing technology into Jaguar factories. Much of this has been carried ont at Radford, Coventry, where the new engine for the XJ40 is already being produced.

Consistency

Unlike volume car production, where robots were introduced on the production line for tasks such as welding, Jaguar is introducing robots in "islands of automation" which can be fully integrated later.

Mr Eynon Thomas, plant director at Radford, said that nearly £2m had been invested in factory automation, and an additional £1m was being spent. Spending of between £6m and £10m on further automation was being considered.

"Accuracy and consistency of production leed to a more reliable product, and that is what we are achieving," ha said. Return on investment is about 15 per cent, but as production increases, this will increase to about 30 per cent. Additional benefits such as increased sales derived from highar quality are more difficult to quantify.

DSR was chosen by Jaguar after an extensive evaluation of factory automation specialists. Almost all the systems are tailor-made for Jaguar, since there have been few similar installations.

DSR has committed full-time personnel to form a team with Jaguar prodnction enginaers, guided by a steering management. The first automation cells form an advanced automation area covering the production of 24-valve aluminium AJ6 engine cylinder heads.

These have been established according to the Manufacturing Automation Protocol (MAP), tha General Motors' system for sending data around a factory in e common way. Each system's program logical control is capable of being linked to tha company's central mainframe computer. Full integration of design and other functions should be introduced eventually.

One island of automation et Radford about to go into production covers the assembly of water pumps, with a Dainichi robot picking and placing components from a track. At Castle Bromwich another centre is carrying out bonnet assembly work, while the sealing of joints is another bodywork function being considered for automation.

Mr Thomas said that sub-assembly operations were the most likely candidates for automation. Jaguar's component suppliers were being kept informed about new developments, as was the workforce. Full discussion with employees had produced greater flexibility on jobs.

Some tasks normally undertaken by robots on motor manufacture were not suitable for Jaguar, he said, since the quality achieved by hand could not be improved.

However, it was the flexibility of the new generation of robotics which had proved so valuable for Jaguar. "The equipment is improving all the time, but yon have to take a risk and go ahead at some point. You cannot afford to wait for ever, in spite of changing technology," he said.

It was essential that maximum flexibility of systems should be achieved, with the ability to retro-fit capabilities that may be necessary in future.

Training had also been e vital requirement and this was being carried out jointly by DSR and Jaguar with co-operation from the workforce. In the longer term, it was unlikely that there would be any significant increase in the numbers employed by Jaguar, in spite of the expected rise in output.

Another big advantage of automated systems was their ability to be monitored constantly for quality deviation. This was carried out by quality control automation systems, which sense and automatically correct changes. Machine operators have become responsible for quality.

Cells at Radford involve valve-seat insertion, port blending and valve-guide assembly and insertion. The valve seat and guide systems have replaced laborious and repetitive manual operations, while the port polishing system has speeded up production and eliminated a tedious manual task which could never be carried out with consistency.

Aluminium cylinder heads which have been part-machined are fed to a furnace which heats them prior to delivery to the valve-seat insertion system, where a robot places valve seats in the casting. Prior to automation, this was carried out manually, with the operator working in a hot and unpleasant environment.

Sensors

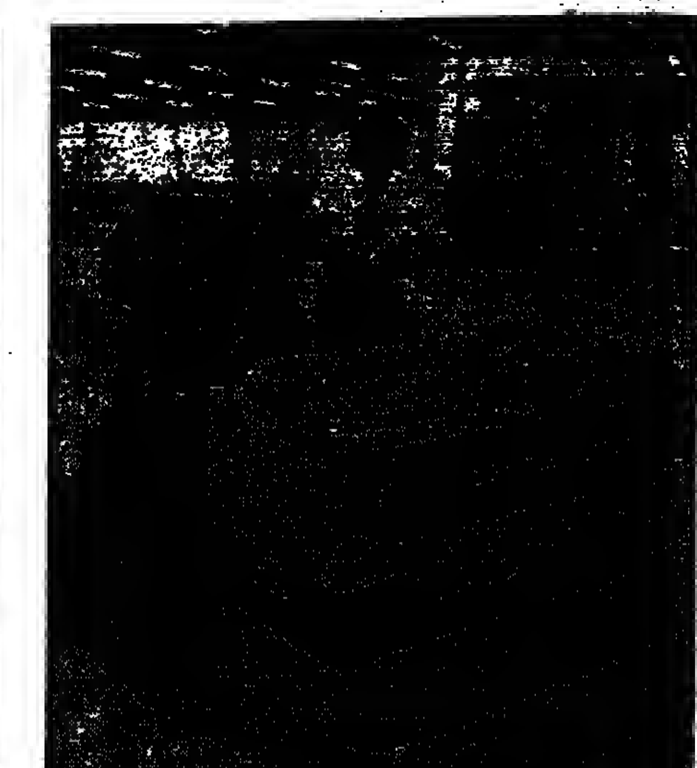
The cylinder head is passed through a cooling tower to the port-blending system. When done manually, this operation was difficult and physically demanding, taking up to 48 minutes for a 24-port head. Inconsistencies in the work resulted in variations in gas flows when the engine was running, causing variations in performances.

The automated system produces an ideal blended contour for each port, reducing the work time per head to just 12 minutes — a 400 per cent improvement in productivity—allowing the processing of up to 50,000 cylinder heads per year.

On completion, the robot cuts an identification mark on the head to allow the quality control department to establish which robot worked on the head.

At the next cell valve guides and circlips are assembled automatically at the rate of one every six seconds and inserted by robot into the cylinder head. Sensors measure the size of the bore to ensure that the guides will fit accurately and confirm that the guides have been picked up accurately by the robot.

Lorne Barling



A Stadco robot arm (above) handles 600 kegs an hour at Bulmer's of Hereford. A Jungheinrich AGV (right) being tested for carrying engines at the Cummins plant in Darlington

AGVs set free to wander

Materials Handling

JOHN DWYER

GENERAL MOTORS recently placed what may be a world record order for automatic guided vehicles (AGVs), the driverless trucks which trundle self-importantly round factories and warehouses. GM has ordered 600 Volvo AGVs for its Oshawa, Ontario, factory adding to the 425 from Conco Tellus, to create its biggest AGV fleet.

The Volvo order is greater than the entire UK population of AGVs, where there are installations at Massey Ferguson, Austin Rover and JCB Transmissions and the 14 BT Rolatruc AGVs at Perkins Engines.

Sales of electric trucks, including AGVs in the UK were £1.7m in 1984 out of a fork lift and industrial truck market of more than £230m, according to Business Monitor. One reason is the scarcity in the UK of large flexible manufacturing systems (FMSs).

AGVs are best used where automated machines are combined with a large storage area. They use less space, are less cluttered and more easily re-routed than a conveyor. They are also versatile — GEC has some that use a goods lift.

AGVs make loading and unloading simplor. A cheap push-off, push-on device can be used instead of a robot. Parts can be moved with jigs and figures in place.

But the AGVs may be only a small part of the total cost. The truck will cost from £10,000 upwards — Deep Sea Seals of Portsmouth runs a single Babcock FATA Microtruck in its FMS which cost £70,000. But 30 to 40 per cent of the total cost is floor preparation and at least the sama again is needed for the control system, especially the interfaces with the production control computer.

Even if the floor is level, the AGV's route is confined to the painted line or buried wire it has to follow. Buried wire allows the AGV to choose routes-production schedule, but new routes need new buried wire.

Factory managers would prefer to see a plan of the factory floor on a CAD screen, draw the AGV route on the screen and transfer it to a free-ranging AGV guided by radio or infra-red signals.

Triangulation

At least three British universities and the National Engineering Laboratory are working on free-ranging AGVs. Cranfield Institute of Technology is working on a free-ranging, three-wheelod AGV called Craft which has coarse and fine navigation systems. The front wheel drives tha AGV and rotary oncoders and pulse counters on the back wheels tell the AGV where it is.

The AGV's back corners have infra-red sensors to guide the truck along white lines where it has to dock. Cranfield says tho AGV costs £5,000.

Imperial College is also taking the free-ranging AGV route, again using optical encoders and counters on two wheels to measure position. Imperial is studying ways to recalibrate tha AGV every so often by triangulation. Tho AGV is instructed by two-way FM radio or, where welding and other equipment might interfere, by infra-red.

The National Engineering Laboratory is about a year away from showing its prototype AGV. This will combine radio for control and down-loading of scheduling information with infra-red sensing but is still at an early stage of development.

Warwick University is also working on a free-ranging AGV. The early part of this work, which involved the use of new sensors, navigation systems, control and communications techniques and software, was funded with £200,000 from Lansing Bagnall.

These may solve non-existent problems. Earthier, perhaps, is Lansing's attempt to develop AGVs which use a wired route as a main path but can leave it to go to machines or loading stations—or round faulty AGVs—under the control of an on-board computer. The computer uses data fed to the truck while it was on the wired route.

Lansing's Mr Peter Kitchen says the trucks they are working on are capable of docking accuracies of a few millimetres after off-wire journeys of tens of matres. After a task, the AGV returns to the wire and its position is recalibrated.

Free-ranging AGVs sound a good idea: AGVs show most benefit where there are many collection and delivery points. But tho more flexible they are, the more complicated the routes thay may follow. Any AGV plan could be run through a simulation package: Istel does one called SEE WHY, but the Inbucon consultancy has studied others.

The number of AGVs needed in a system needs careful thought. If machining cycles are long enough, a few can serve a large number of stations. But Mr Ken Firth, of the National Materials Handling Centre at Cranfield, cites one supplier which said a system needed 12 AGVs but another quoted four. That is where the simulation comes in.

AGVs will affect the traditional fork-lift truck makers less than world overcapacity has hit them. The AGV will replace the hand-pallet truck and complement tha traditional fork-lift, which comes into its own at the edges of an operation.

Random

For example, even a large FMS does little of the work in a factory and is unlikely to make the finished product. The FMS, with its fleet of AGVs, may machine half a dozen main castings for a machine tool or textile machine. But the motors, gear boxes and other parts for the finished item have to be moved from elsewhere.

Where there are many such random movements fork-lift trucks may be more useful than AGVs. They do not need to follow a wire in tha floor, and routes between collection and delivery points can be varied to cope with changes in tha product mix.

A good, careful driver is hard to beat, but there appear to be few of them. Drivers need rest and refreshment and have a poor record for keeping loads undamaged. A compromise is tho radio-controlled or wire-guided automatic (unmanned) fork lift (AFL), pioneered by Komatsu in Japan. AFLs are being taken up by Lancer Boss, Jungheinrich, Lansing and Wagner.

AFLs are less flexible than driven fork lifts and can give problems. The main one, again, is an uneven floor. An AFL has to pick up its load accurately, which may mean using special pallets, and hold it in the same position throughout its journey. If an uneven floor makes the load shift or change shape the truck will either be unablo to deliver the load at tha other end or a photo-electric detector on the truck will stop it until the load is put right. Wear on wheels and brakes make it even harder for the truck to find its load.

But AGV's and AFLs are not the only way of moving goods around an automated factory. The car industry uses a lot of chain conveyors because they are rugged, easily buffered and reliable, when properly maintained. The chain conveyor can have elevated and drop sections which allow parts to be moved easily up and down between floors or well about head level except when needed.

A variant popular in the US is the self-propelled monorail carrier. Like the chain conveyor, it can travel at any height, but it can be reprogrammed in mid-journey and is very quiet.

Neither system is new, and most of the interesting developments concern AGVs, but conventional transport systems are often made more effective by combining them with AGVs. At Vauxhall's Ellesmere Port plant on Merseyside, for examplo, doors are removed after the car bodies have been painted and put on Schindler Digitron AGVs which take them to workstations to be fitted with panels, windows and winding handles.

Dashboards and pedals are also assembled away from the main car body line. Tho quality of tho dashboards improves because they are more easily assemblad and throughput improves because the dashboards are easier to fit with the car doors off. Other car manufacturers are taking up the idea.

PROFILE: JUNGHEINRICH

BY NICK GARNETT

Late starter shoulders into market

THE West German industrial lift-truck maker Jungheinrich, is trying to move quickly into the manufacture and supply of equipment and systems for automated factories after a slow start. One glance at the company's new production site at Norderstedt near Hamburg tells why.

To help keep its competitive edge as one of Europe's three biggest manufacturers of electric industrial trucks like forklifts and stackers, new automated production systems are being installed at Norderstedt. That will be good for efficiency but one victim might be its own industrial trucks.

Norderstedt has 120 of them, excluding hand operated pallet vehicles to ferry materials. But as automatic guided vehicles (AGVs) and other systems are brought on stream at the plant the requirements for operator-driven trucks will not be so pressing. This is even more true in the general drive towards automated warehousing.

With industrial trucks forming 75 per cent of Jungheinrich group turnover, the growing use of AGVs and more standard driverless industrial trucks in industry could not bo ignored. As many other manufacturing companies are following the trend towards automated transport systems, Jungheinrich saw not only an opportunity but a real need to get a slice of the automated manufacturing equipment business.

It has already supplied 470 floor-guided and driven AGVs for carrying materials, components and engines at the Russelsheim plant of Opel, General Motors' West German subsidiary. Another 26 are being installed at the Cummins diesel engine plant at Darlington, in the north-east of England. These will act as work benches carrying engines and the men working on them.

Jungheinrich has also tendered for four big contracts at Ford's European manufacturing locations. This is aside from its much more long-standing business of supplying automated warehouse systems. The latest, for Kodak at Hemel Hempstead in England has given the US film and camera company one of the most advanced warehouses in Europe.

Diversification

Jungheinrich is the first to admit that it should have shouldered its way into this business sooner. The family-owned company, which employs 4,800 people, developed its first automatically controlled truck as far back as 1962, only to abandon it to meet production demands for operator-driven industrial trucks.

"We had a big opportunity," says Mr Gunther Dytert, Jungheinrich's production planning director. "We would now have had a much bigger slot in the market."

Underlining its diversification into automated systems, Jungheinrich created a separate division in 1984 — Jungheinrich Anlagen Technik (JAT). Its guiding hand is Mr Eckart Kottkamp, main board member for technical development, who says the automated systems division accounted last year for DM 40m (£10.6m) out of the group's total turnover of more than DM 800m.

The JAT figure, however, does not include the value of most of the metal fabrication work taken into the figures for Jungheinrich's main manufacturing operations.

Automation is a new market for the company and potential field of diversification, Mr Kottkamp says. The division's main aim is to sell production "solutions" to other manufacturers not necessarily using Jungheinrich products.

Jungheinrich works with a cluster of companies, selling their products as part of systems. It does not make stacker cranes, for example using instead those made by Dambach or Seimag. It does not make conveyors but takes them from Thyssen. It has also abandoned the manufacture of racking systems, taking them from outside.

The company also claims to be Europe's biggest supplier of welding robots in collaboration with Cloos, the welding equipment specialist. Jungheinrich produces the arm and carries out much of the engineering. It started developing robots eight years ago and production began in 1980.

The company's AGVs are made at Wandsbeck on the outskirts of Hamburg, the main manufacturing site before the bulk of industrial truck production in West Germany was transformed to the DM 80m Norderstedt plant.

Some of its automated systems use what look like ordinary industrial trucks but are guided on tracks. Jungheinrich is also examining the possibility of producing a hybrid AGV-powered pallet truck for order picking.

Jungheinrich's driverless transport system is called Ameise Teletrak. Vehicles are guided by an electric wire installed in the floor, the trucks receiving instructions through microprocessors linked to a central computer. Workbench AGVs like these at Cummins can report back to an integrated management computer on the state of each engine.

Tailor-made

The company's complete automated systems also include a gantry-type robot for automatic palletting—building up four pallets, then transporting to a marshalling area—and driverless narrow-aisle trucks. Control systems and some software is produced at Jungheinrich's technical division at Norderstedt.

Jungheinrich has sold its ETX tailor-made automated warehouse systems for more than a decade, using wire or rail guidance.

Kodak's automated warehouse, put together by Manchester-based Jungheinrich GB can store 7,000 pallets. Almost all movements are fully automated from the receiving station and into and out of bulk stores. Three Jungheinrich driverless narrow-aisle stackers work with five AGVs. Computers and software were contracted out.

It is in manufacturing, though, where the greatest technological leaps are possible. "In assembly work it is not a machining problem but a flow problem," Mr Kottkamp, says.

Machines get the measure of quality

Inspection

JOHN DWYER

AUTOMATING JUST to reduce costs does not work. Automation should boost market share or it is a waste of time, and better quality is the way to do it. Quality control has to make sure no defects get through.

How to get there depends on what a factory makes. Hardy Spicer, for example, is using cameras to seek cracks in constant velocity joints. Cameras can also take measurements, but where accurate manufacture is essential, the co-ordinate measuring machine (CMM) is the best answer, especially for measuring details hidden round corners.

CMMs are computer-controlled machines which can be programmed to go through a routine set of measurements of solid objects. A probe at the end of an arm switches when it touches an object's surfaces.

CMMs take various forms, depending on the size of the object measured. The most familiar in engineering is the gantry type. The measured object is placed on a solid (usually marble) table and a measuring arm mounted on an overhead gantry carries the probe, usually a Renishaw, around the object.

Tireless

The world market for all types of CMM last year was worth $324m, according to market analysts Dataquest.

CMM-maker LK of Derby had multi-million dollar orders from General Motors, which two years ago decided to replace its manual fixed gauges in 27 body plants with $15m worth of measuring machines and programmable gauges. Ford then began its programme with a $5m order for four machines and an option on four more.

Ford says the machines reduce measuring-cycle times by half. Cylinder-blocks, for example, are taken off the line and one of 15 measuring-programs controls the probe-tip over a five- to 10-minute series of measurements. Ford intended to rely on print-outs listing any machining-errors in the blocks, but now uses information from the CMM to signal changes at the machine tools which carve out the blocks.

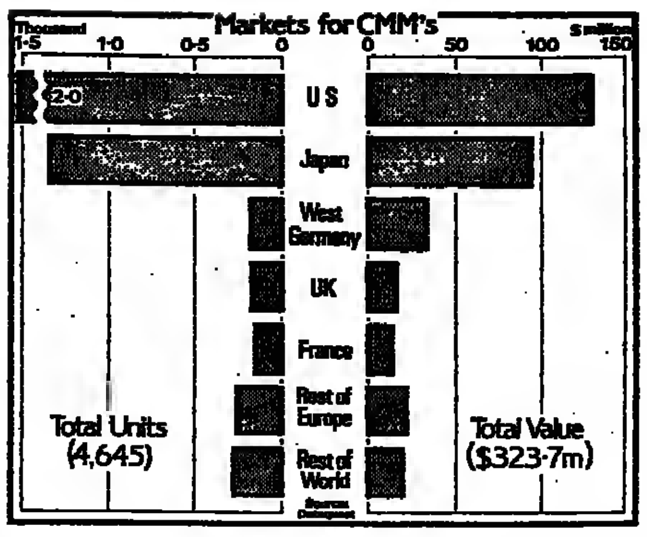
It is an increasingly-important market, not just because CMMs provide the non-human advantages of tirelessly-accurate measurements which can be accessed directly by a data-base. A lot of companies are developing ways to use CMMs in flexible manufacturing system (FMS) cells and to link them with computer-aided design (CAD) systems to generate the CMM's part-programs automatically. The CAD system which makes a part could also generate the CMM routine to check it.

CMM-maker Bendix is working with Computervision to link CAD and CMM systems, and other projects funded by the US National Bureau of Standards. DEA of Italy is working with Computervision and IBM's Lockheed-developed CADAM system.

LK, its parent Cincinnati, Ferranti and KTM are working in the UK on programmes to put CMM systems into flexible manufacturing cells, and Brown & Sharpe also has a system.

Toyota says CAD-linked CMMs have solved a serious bottleneck in its production of new models. Information from surface models in the CAD system's computer is fed to a CMM where car body stamping dies are finished by hand. The CMM runs over the stamping die and compares it with the computerised model.

Four suppliers are world leaders in high-accuracy: Leitz of West Germany; Moore Special Tool of the US; Zeiss of West Germany; and Zip of Switzerland. Accuracy can be less than 1.5 microns in a one cubic metre working space. These are laboratory machines which are expensive, slow to operate and come in a restricted range of sizes.



Such accuracy is not needed in manufacturing and industry normally goes to the next layer down. This includes such namea as Cincinnati/LK, Ferranti, WA Metrology, all of the UK; Brown & Sharpe of the US; Renault of France (distributed in the UK by Federal Gauges); DEA of Italy (Fairey Automation) and Johansson of Sweden. The Japanese are not well known in the market, the only big company being Mitutoya.

LK, which Cincinnati Milacron bought a year ago, is one of the leaders. In 1984 its orders went up to $20m from $9m and it continues to double its size each year. Exports were 70 to 80 per cent, nearly all for the US.

Problems

One of the most exciting developments in CMMs relates to their software. On a straight-forward three-axis CMM there are 21 sources of error, seven on each axis.

Errors on the probe can also arise if it is not perfectly normal to the surface it is measuring.

All these erors can be corrected using software. Zeiss and some Leitz machines have this capability but the software should percolate right down the range in time, allowing greater accuracy for more cheaply-built machines. The best industrial CMMs cost more than £200,000 each.

CMM's have other problems. For instance, the CAD systems they are linked to do not usually store tolerance information. Also just as different machine tools have different controllers, each CMM program has to be post-processed for each make of machine.

The research organisation CAM-I is working on a dimensional - measuring interface specification based on McDonnell Douglas's two-year-old CMM interface. It will be put forward as an international standard for interfacing with CMMs, but there is now a growing catalogue of CAD/CMM software.

The accuracies CMM makers quote are not expressed so that users can compare machines from different makers. Some makers' accuracies only apply in specific, usually impractical, circumstances such as when the arm of the CMM is at rest at the top of its gantry. The quoted accuracy is useless as a guide to how the machine will perform when the arm is extended three or four feet below this to the measuring-table.

Some machines' definitions of form like roundness and flatness are incompatible with the algorithms used in data-processing. Several variants are used, which can cause wrong or inconsistent results. The validity of the software needs to be checked independently.

There are ways of checking the accuracy of a CMM. Verification laboratories, such as PTB in Germany, the National Physical Laboratory (NPL) in the UK, and the NBS in the US have CMMs which have been accurately calibrated to measure test-objects accurately. The user can then take the test-object and see what readings he gets on the CMMs he looks at.

The British Standards Institution has published the first two parts of a draft standard on the use of CMMs. When complete it will give users the measurements they should take, the directions of travel to use and the readings at the probe tip they should get if they follow the guidance.

PROFILE: ISTEL

BY ANNA KOCHAN

Image change sends revenue soaring

ISTEL COULD have been described as ahead of its time when formed as BL Systems almost six years ago. Few manufacturing enterprises were ready to take on local area networks or computer-integrated manufacturing, the main part of its expertise. Today, they are crying out for it. Istel may have more experience in the field of systems integration than any other in the UK, and is a company going from strength to strength at home and abroad.

BL Systems (BLSL) was formed as a subsidiary by amalgamating the systems departments within British Leyland. Considerable expertise in computing, communications and systems had been built through supplying the needs of BL, and management felt this was in demand outside the group. Management was right but the broader market took some years to realise it.

Having started with 1,000 employees and a turnover of £17m, BLSL had managed to increase turnover to £32.5m by the end of 1983 but had no significant external sales. A change of image was thought to be the answer. Mr John Leighfield, managing director, felt the image of a computer department within a car company had been the main factor hindering sales.

In 1984 the name was changed to Istel, and by 1985 it anticipated a revenue approaching £50m, of which £15m was expected to come from external sales. The company now employs about 1,200 people and expects external sales to grow by 50 per cent a year and internal sales at 10 per cent over five years.

One of BLSL's first big projects was at the Longbridge Mini Metro factory. Systems integration in this plant involved linking more than 200 shopfloor terminals, 24 computers and more than 200 programmable logic controllers using about 7km of special broadband coaxial cabling. Similar work was done at Cowley on the Triumph Acclaim and Maestro production lines.

Fairey Engineering was one of BLSL's first external customers, with a contract worth £208,000 to cover systems requirements for five years. This was expected to include production planning, computer-aided design, flexible manufacturing systems (FMS) and production monitoring.

More recently Istel has begun to establish a reputation as a systems supplier for FMS. It has twice delivered FMS installations for TI Machine Tools. A project for Deep Sea Seals incorporated a TI machining centre and a Webster & Bennett turning and boring machine, both fitted with Fanuc controllers, as well as Babcock FATA automated-guided-vehicle and DEC supervisory computer. Istel was responsible for interfacing equipment and writing software for programming, scheduling, generation of work plans and tool monitoring.

Integrator

The BL systems house has turned its expertise into marketable products like SEE WHY, launched in 1979. This was the first user-friendly software package for simulating dynamic and interactive industrial facilities, and many have tried to emulate it.

In 1981 BLSL launched its factory management information systems programs (Famis), designed to run on Digital Equipment computers to control and monitor all factory operations.

Today the factory automation activity of Istel is centred on Istel Automation, a computer integrated manufacturing operation set up last November. Not only will it act as a system integrator for advanced manufacturing projects but will also take the role of prime contractor for projects involving management consultancy, simulation, production and process engineering, plant and equipment supply as well as systems engineering.

Mr Mike Grant, managing director of Istel Automation, is establishing informal collaborative agreements with hardware suppliers, as such projects require close relationships.

These include TI Machine Tools (machining centres and lathes), Babcock FATA (AGVs), Arthur Young (management consultancy), IBM (computers), and Allen-Bradley (controllers). Istel Automation's first contract is with Jaguar.

Istel is determined to keep ahead of the times. It has probably acquired more knowledge than any other UK company about the manufacturing automation protocol (MAP), which is crucial to manufacturing automation in the future. It is also working on artificial intelligence techniques, likely to be equally important, and plans to open 30 offices around the world over five years.

Talk about privatisation is in the air, and when a purchaser appears who is able to convince management that the needs of internal BL companies are secure, the company will become independent.

Trailer-made by a smart sensor

Crane Fruehauf has introduced robotics into production at North Walsham, Norfolk, the biggest trailer manufacturing centre in the UK. The IRB 6, from ESAB Automation, has a Smartarc sensing system for suspension assembly and welding—highly stressed components needing quality welds. Future applications could include welding trailer couplers and bulkheads and, ultimately, complete assembly and welding of standard platform trailer frames, the company says. The robot can be programmed for any welding task, thus reducing costs and the amount of work in progress. And it welds in half the conventional time.

Other computer-controlled machines involved in the new production lines include aids to sidewall manufacture and assembly

Bright prospect for small-timers

Assembly

IAN RODGER

AUTOMATION HAS penetrated many areas of the factory, but assembly lines remain, for most manufacturers, areas of great labour intensity. According to one estimate, the labour cost of manual assembly accounts for between a fifth and a quarter of the total labour cost for durable goods production.

Assembly is one of the most difficult areas to automate because it usually involves so many different functions like picking, placing, and fastening—often in awkward sequences. Also, although taken for granted when people are doing the assembly, a great deal of visual and other inspection is involved at every step.

Thus, manufacturers have tended to shy away from attempting to automate assembly operations unless these are fairly simple, or involve big volumes so big investment in fixed automation plant can be justified.

Assembly automation is most advanced in the automotive and domestic appliance industries. It has tended to be applied most in spot-welding body panels of cars and washing machines, but also in large-volume assembly of complex components such as engines, clutches, fuel pumps, thermostats and door locks.

Not surprisingly, the assembly automation industry is a small fraternity, with fewer than a dozen major companies in Europe and the US. Among the leaders are the Gilman Automation subsidiary of Giddings and Lewis in the US, the Comau subsidiary of Fiat in Italy, Renault in France, Bosch and Krause in West Germany, VS Technology and John Brown Automation in the UC.

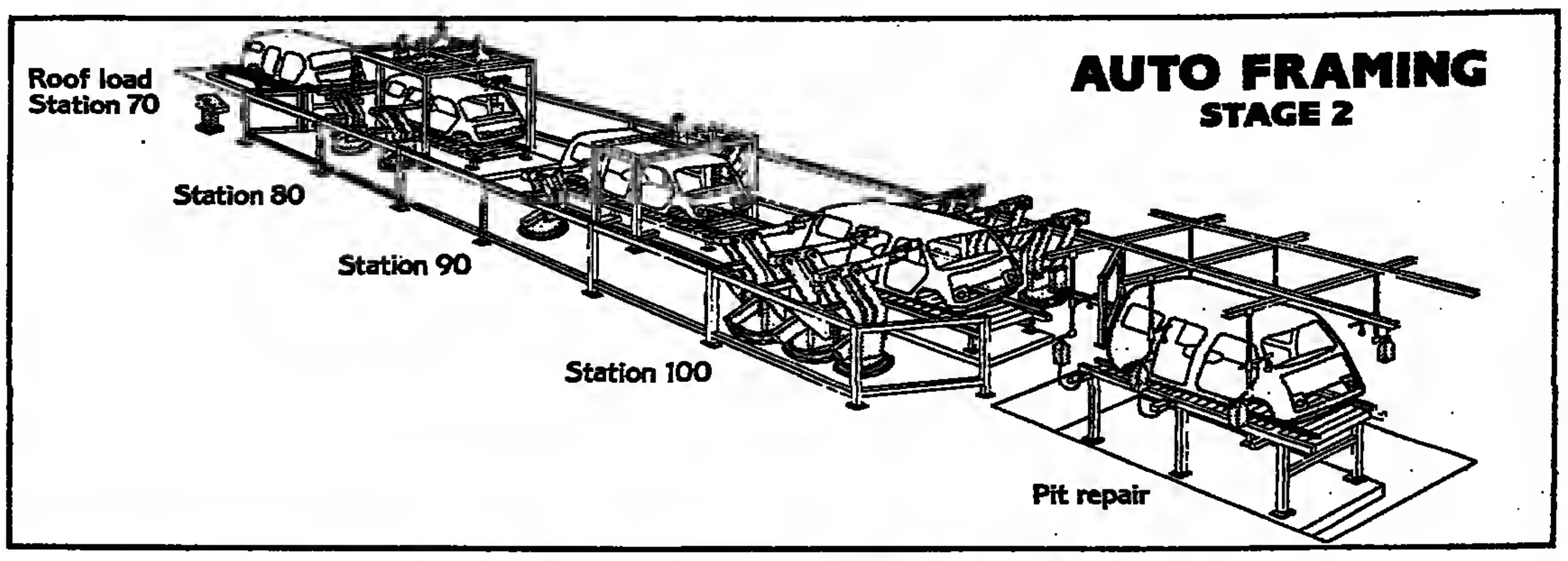
There are many other very small companies that, in many cases, have entered the business on the strength of one or two ideas. Until recently, growth in the industry has been limited by the number of potential applications for high-volume, fixed-assembly systems.

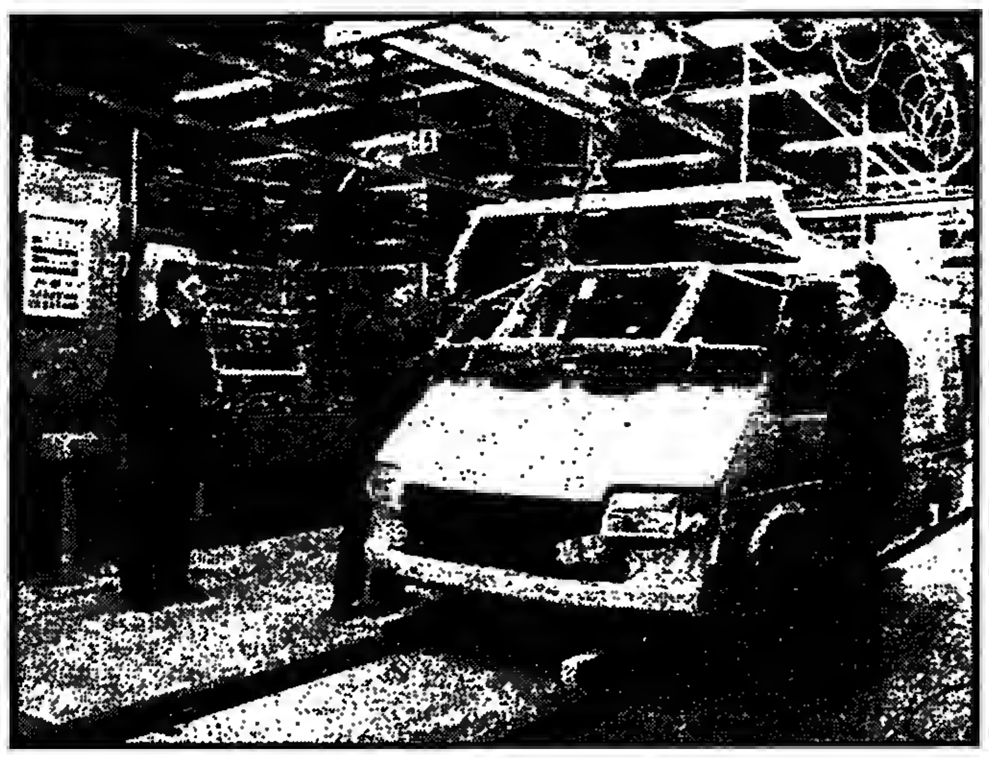
The emergence of new control, handling and inspection technologies makes the prospects for automating more varied, low-volume assembly operations much brighter in the near future. The availability at increasingly reasonable cost of vision systems, touch-inspection equipment, robots and programmable controllers all point in this direction. John Brown has designed and produced a system for assembling a family of seven small stapling machines for only £80,000.

The main automation companies are improving their abilities in this flexible automation field. Late last year Comau joined forces with Digital Equipment (DEC) of the US to develop automation systems. And last month, ASEA of Sweden acquired VS Technology of Britain.

ASEA, the leading robot supplier in Europe, said that VS had developed expertise in vision control, machine intelligence, automated adhesives technology and small parts assembly for the electronic and telecommunications industries, and that it would enable the group to supply more advanced systems throughout Western Europe.

Consulting firms are also getting into the act, claiming to have expertise in this area.





Manufacturing equipment worth £100m recently commissioned at Ford's Southampton plant in the UK includes 125 robots and two computer systems. TV cameras also check correct specifications and lasers read bar codes to confirm components. The Transit plant at Genk, Belgium, has also been automated.

The main construction line involves 38 robots carrying out up to 1,800 welds to form sub-assemblies. The next line requires another 35 robots in tasks such as roof loading (left). The computer systems use a common data base, one for body construction and the other keeping track of the vehicle from paint shop to delivery.

Windscreens are fitted (bottom left) by direct glazing.

PROFILE: JOHN BROWN

BY IAN RODGER

Fits and starts by UK leader

WHEN THE beleaguered John Brown engineering group decided in early 1984 to withdraw from the machine tool business, it held on to a small operation in it then called Wickman Automation.

Mr Allan Gormly, John Brown's managing director, said at the time that the group liked the idea of keeping a toe in the highly promising factory automation sector, and Wickmam Automation, which is now called John Brown Automation, was showing considerable promise in the assembly automation field.

The operation was established in 1965 as an offshoot of the Coventry-based Wickman machine tool business when one person was asigned to make a rotary table assembly system for locks. It has grown in fits and starts, but has become one of the UK leaders in recent years, with a 70 per cent export component in its current £10m order book.

Turnover last year was about £5m and the company employs 140 people, 60 per cent of whom are skilled engineers. It has built systems for General Motors, Ford, Black and Decker and other appliance makers.

Last year, it won its biggest-ever contract, a £4m system from the Soviet Union for assembling and testing combine harvester clutches. The system consists of 15 stations for assembling 24 components at a rate of one every 49 seconds.

It also won four major orders in the US worth a total of almost £4m, including three for automotive applications and one for assembling a kitchen sink waste disposal unit.

While its main sales are in high volume, repetitive automation systems, the company became interested in making more flexible systems several years ago. It has developed a programmable logic coutroller specifically for such systems, with the ability to check the performance of work stations and provide information on faulty components.

"We offer design assistance, too, with a view to reducing the costs of assembly," Mr Derek Harbour, managing director, says.

The company's problem today is that the assembly automation business in the UK is spread among too many small groups, none of which has sufficient volume to make profits consistently. John Brown Automation, for example, made a loss in 1983, a profit in 1984, broke even last year and should make profits this year.

Other leading UK groups such as Stadco subsidiary of Hall Engineering and Fairey Automation, for which the Fairey Group is looking for a partner have not done well either.

Mr Harbour believes, however, that a shakeout is not far off and John Brown Automation, with its strong backing from the John Brown group, will be a beneficiary.

MAPs around factory floors lay out paths to survival

Manufacturing Automation Protocol

JOHN DWYER

GENERAL MOTORS' manufacturing automation protocol (MAP), an attempt to create a standard way of sending data round a factory could save the industrial world according to one body of thought. But it will not do it yet. A MAP demonstration in Detroit proved how much work remains to be done.

But GM has the right mix of dollars and determination to make it happen, and for the first time in the computer industry's life its industrial customers are dictating terms. From now on unless a suppliers' equipment conforms to MAP, it will get little of the factory automation cake, put at $100bn by 1990.

MAP was born of irritation. GM has long had plans to automate its factories and last year spent $9bn on new plant. But by 1980 GM had grown tired of robot, conveyor and machine tool controllers and shop floor terminals that did not talk to each other.

Only 15 per cent of more than 60,000 devices now on GM's shop floor communicate beyond their own processes, and 40 per cent of investment was being watered down to pay for interfaces to sort out this computerised Babel.

Even then, parts of production lines link to controlling screens and keyboards in the control room, so supervisors are faced with up to five sets of screens and keyboards from different suppliers.

The industry had no standards so GM decided to write some: MAP emerged in 1982. GM told its suppliers they would get no more sales unless they conformed.

With sales of $90bn, GM has so much buying clout the suppliers had to listen. But they were even more willing to co-operate once GM turned MAP into a world crusade. Now hardware and software suppliers are falling over themselves to emphasise how compatible their systems are with everyone else's. A few years ago they could not have cared less about the inability of their equipment to talk to anything else.

GM's idea is to run one cable round a factory into which every programmable controller, robot controller, machine tool controller and factory floor terminal plugs, and which links to factory-wide mainframe manufacturing control systems. It must not be based on Ethernet, which gets more inefficient — and, less predictable — as the traffic increases.

GM also dislikes Ethernet because it is baseband. GM is used to broadband, which can carry speech and TV as well as factory-floor data. And, thanks to the 40m US homes connected to broadband community-access TV stations, this equipment is cheap and proven.

GM has been putting in experimental systems since the early 1980s. Its steering gear factory in Saginaw, Michigan, is a laboratory for MAP-connected systems in the rest of GM. The company is spending $52m to set up an integrated, paperless factory there by 1987 which will have 40 manufacturing cells linked to the factory's Cadcam systems.

Timetables

The other main focus of interest is GM's truck and bus group. Five factories will be running MAP networks to produce 1986 models. Some $25m of the $350m total cost of this project is MAP-based communications. Another project involves MAP-connecting 10 car si. s by 1988.

A lot hangs on these systems starting on time. Mr Bob Eaton, GM vice-president, says: "If they don't, we are in trouble." He says about 15 GM plants have timetables for putting in MAP.

Ford is hot on GM's heels and, cautious though its approach has been in comparison, it may beat GM to the MAP installation line. John Deere of the US is also putting in systems, and the Kaiser Aluminium and Chemical Corporation may be the first heavy process company to put in a system, producing forgings. DuPont is putting in a 2,000 ft MAP cable to make breach parts for sporting rifles. Kodak is also installing a system.

In Europe a vigorous MAP users' group has been established and the Esprit programme is funding two projects to complement MAP.

But MAP is no cure-all. In spite of its sole justification as a common method of factory communications, it is doubtful whether any of the US systems could talk to each other, however well they work on their own.

Compatible

There are several versions of MAP. The standards on which MAP is based were largely unwritten four years ago and are still incomplete. The first time MAP was demonstrated, at the National Computer Conference at Las Vegas in July 1984, the six participants were linked over the first version, called MAP 1.0. The Saginaw Steering system uses MAP 2.0 and the most recent demonstration, at the Autofact show in November, used MAP version 2.1.

GM has said that these upgrades must be compatible one with another, allowing users an easy transition to each successor. But that will end with the definitive specification MAP 3, about a year away.

All these MAPs differ in such things as message format or running speed—five or 10 megabits a second—but further variants will be available which use either part or all of the OSI model. They may also differ in how much of the model is carried on an interface and how much is downloaded from a host computer for temporary residence on the interface board.

The cost is prohibitive, though curtailed "carrier-band" versions of MAP interfaces will be available this year and will probably be the choice of small companies which want to invest in MAP systems as a way of making it easier to add future capacity. Costs are from $2,000 to $10,000 per connection, due to fall to $200 to $500 when the VLSI chip versions of MAP appear in quantity.

But even if a medium-sized manufacturing company was willing to put up with this expense and uncertainty and decided to put a MAP system in today, it could not buy it. Last November every board ever made by INI, the US company that made all the MAP 2.1 boards, was in Cobo Hall, Detroit, for Autofact.

MAP just is not around yet, even though companies which have to automate to stay in business cannot afford to wait.

What do they do? First, Europeans should join the MAP-user group being run by Mr Tony Scarr at Cranfield Institute of Technology.

Second, companies should sponge from a CIM supplier committed to OSI. Digital Equipment admits that all its MAP business for the immediate future will consist of handing out free advice in the hope of later sales. There are also small companies, like LDR of Aldershot, which have specialised in office communications interfacing and are eager to get to grips with manufacturing problems.

TALKING IS CHEAP

MAP may be all the rage, but a group of British companies believes that communications between different types of shop floor machines and computers is not as difficult or expensive as the MAP promoters make out.

The group, led by Production Engineering Research Association (PERA), is attempting to prove that multiple computer-to-machine communication can be achieved through existing standard interfaces such as RS232, by mounting a demonstration manufacturing cell at the Manutech exhibition in London in June.

The project calls for drawing for six or seven components to be created in a CAD system, with the computer then sending instructions to a CNC lathe for machining and inspection. A robot cell will then take instructions from the lathe for sub-assembling.

Among those participating in the project are IBM, TI Machine Tools, John Brown Automation, General Electric and Findlay Publications. Mr Peter Marshall, the project coordinator, of PERA, believes the job can be completed on time provided all suppliers can deliver on their claims.

IAN RODGER

PROFILE: HITACHI SEIKI

Flexible system profits demand intensive use

HITACHI SEIKI, one of the top five Japanese machine tool builders, with turnover last year of Y45bn, has set out to be one of the leaders in supplying flexible manufacturing systems (FMS) as well.

Mr Kinroku Degawa, president, believes that the company is the most important Japanese supplier of FMS today, having sold some 30 systems since 1978, two of them abroad.

"However, my worry is that FMS will not be profitable for suppliers," he says. "It is certainly not profitable for us at the moment." On one contract, he recalls, the company managed only to recover its hardware costs.

Mr Degawa says the problem is that there are many things that cannot be foreseen when you are working with new technologies. "We know the goal but not the way to get there," he says.

The same is also true with customers. "While building an FMS, there are many discussions with the customer. The problem is that the contract value often does not seem to grow at the same rate as the requirements."

Paybacks

Like many Japanese machine tool companies, Hitachi Seiki has used its own factory as a showcase for its technology. The plant at the Tokyo suburb of Abiko features three FMS installations, demonstrating different types of machining on various sizes of workpieces.

Two of the three systems have automatic tool supply systems; the one attached to the turning system is particularly innovative in that the tools are delivered via an overhead gantry.

Mr Degawa says one reason many FMS systems have not been successful is that companies do not use them intensively enough. Hitachi Seiki systems work around the clock, and have significantly cut down the number of workers and machines involved in the related activities. However, the projected paybacks for the three systems are still not brilliant, varying from 3.6 to 4.1 years.

Although FMS is expected to become an important part of the company's business in the future, it is still relatively small. Machining centres account for 45 per cent of sales and numerically-controlled lathes 34 per cent. There are also significant sales of special and very large machines. Seiki exports 29 per cent of its output, half of it to the US and a third to Europe.

Despite its problems on FMS, this company of 1,800 employees is going through the most successful period in its history. Profit in the six months to September 30 nearly trebled to Y857m ($4.1m) compared with the same period last year, and the forecast for the full year is for profit of Y1.25bn.

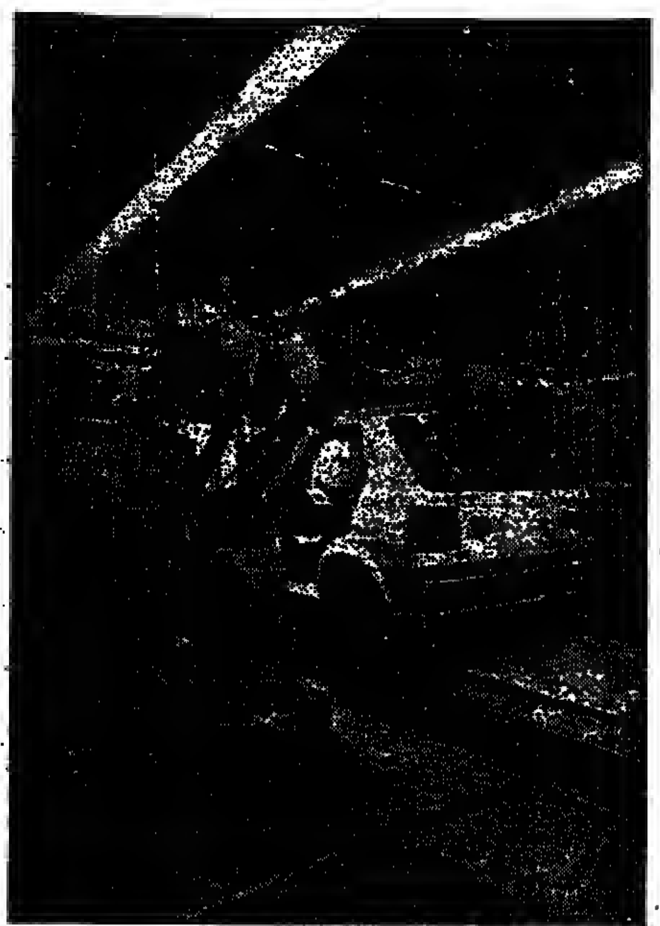
Hitachi Seiki was formed as a machine tool group in 1936 by the diversified Hitachi engineering group, but became independent when the big Japanese conglomerates were broken up after the war. Today, the shares are very widely held, and Hitachi has no stake at all.

The company set up a small manufacturing operation in the US in 1980 (it employs 15 people) but it has been a headache. "The problem is that after we train people they leave," Mr Degawa says.

In another step to protect its position in the US, the company has licensed Cincinnati Milacron, the US builder, to make its CNC lathes, using components from Japan.

It would like to set up licensees in Europe "if we can find good partners," Degawa said. "In the past we had a few contacts with manufacturers, but nothing came of them."

Ian Rodger



Rear window assembly (above) at the Nissan assembly line in Murayama, Japan

A 15-station line for combine harvester clutch cover automated assembly being built by John Brown Automation in a £4m Soviet contract

PROFILE: KTM

BY IAN RODGER

Joint ventures make up for weakness

IN 1983, Britain's trade and industry ministry carried out an urgent study of the country's rapidly disintegrating machine tool industry. The idea was to find out whether a restructuring plan could be designed that would have some chance of helping the industry avoid total collapse.

DTI officials quickly realised there was no longer any company or management team in the industry strong enough to lead a restructuring effort. So they decided that the best thing was to do nothing, leaving the industry to its own devices.

In the event, that was the best decision. Today, a handful of UK machine-tool builders have recovered from the slump of the early 1980s and become internationally competitive both in price and technology.

Perhaps the most surprising case is Kearney and Trecker Marwin, the Vickers subsidiary that seemed in the early 1980s to be doomed.

Until 1982, KTM was the leading UK machine tool builder, at least in terms of technology. It specialised in big milling machines for the aerospace industry, transfer lines for the automotive industry and large milling machines for engineering.

Like many other builders, it was caught napping by the Japanese advance on world markets in the late 1970s with machine tools using computer control (CNC) technology. While it was scrambling to catch up with the Japanese on standard machines, its aerospace and automotive markets also collapsed.

Turnover plunged from £26m in 1981 to £8m in 1984. A profit of £2m in 1981 has turned into heavy losses ever since.

A new managing director, Mr Mike Bright, was appointed late in 1981 and rationalisation began. The workforce was slashed from 1,000 to 600 by 1983 then to the current 366. Vickers made threatening noises about KTM not being a vital part of the group, and it looked as if it was only a matter of time before the Brighton-based company disappeared.

But Mr Bright set out a strategy for recovery and managed to win support from a non-interventionist DTI. The ministry asked Vickers to show patience, as KTM had technology valuable to the country, and could become highly successful.

Patience has certainly been required, but it appears to be beginning to pay off. Turnover bounced back to about £17m last year and the company has begun making trading profits again. Mr Bright says the order book is healthy and that KTM will make profits after financing charges this year.

The key to this recovery was a recognition that the demand for specialised machines for the aerospace and automotive industries, which once accounted for about two-thirds of sales, would never return to prominence. Today, they provide only a fifth of KTM sales.

On the other hand, the demand for CNC machines and automated manufacturing systems built around them was likely to grow rapidly. The question was who was best positioned to succeed in these new markets. Mr Bright believed that machine-tool builders, with their knowledge of shopfloor machinery and practices, would have the edge over systems and software houses.

KTM had considerabla know-how for making systems work, but it needed more expertise in electronics and project management. It also needed to add some smaller machines to build higher volume. The company has achieved these objectives through joint ventures with Mitsubishi of Japan for machines and Siemens of West Germany for controls.

"For three years, we have been making up what the users thought was our weakness," Mr Bright says.

Almost all the group's sales are now of products it did not have five years ago, and 40 per cent of them are in systems. It has sold large and complex systems to Austin Rover, valve makers Pegler Hattersley, farm equipment group Case International and others.

"We are no longer talking about the leading edge of new technology, but proven and tried technologies in machines and software," Mr Bright says.

KTM has also rebuilt its export business partly through a licensing deal with an Indian company, Hindustan Machine Tool. Today, 28 per cent of turnover is exported, and the company has sold its new products in China, Belgium and France, as well as India.

Mr Bright says that, in terms of technology, KTM is now competing with the top 20 manufacturing systems companies. However, he believes that a collaborative venture with a European group is vital to securing its future.

"We have a responsibility to establish ourselves in international markets. That is a priority to achieve volume quickly. We hope to conclude an agreement this year."

PROFILE: GIDDINGS & LEWIS

BY IAN RODGER

Numerical controls help recovery

GIDDINGS & LEWIS, based in Fond du Lac, Wisconsin, is one of the leading high technology factory equipment and system suppliers in the US.

The company's beginnings were in sawmill equipment in the mid-19th century, but it began making machina tools around the turn of the century when logging in Wisconsin declined.

Major expansion began after the second world war with the acquisition of a tool-making company and five machine-tool companies, including Douglas Fraser in Scotland which has become Giddings & Lewis-Fraser.

In 1966 the group began to widen its interests with the acquisition of Gilman Engineering and Manufacturing, a leader in assembly automation. This was followed by the purchase of printed circuit board-maker Basic Electronics, in 1978 and Synder, a maker of transfer lines and special machines in 1981.

But expansion came to an abrupt end in 1982, mainly because the markets for machine tools and other G & L products slumped but also because the group was acquired by the Canadian engineering group Amca.

G & L's main markets are in the automotive and defence industries. Its turnover reached a peak of $290m in 1981 and then tumbled to $110m in 1983 before recovering last year to $210m. Mr Frank Jones, president, says that the group at least managed to avoid losses during the slump.

The machine-tool division remains the largest accounting for about half total turnover. The company makes horizontal machining centres and vertical lathes and produces its own numerical controls.

It also sells control equipment. Gilman, the assembly automation division, accounts for about a quarter of turnover and is the fastest growing part of the group, with sales expanding at about 25 per cent a year, mainly to the automotive industry.

Mr Jones estimates that 40 per cent of the group's machine-tool sales are made as part of system contracts, compared with only 10 per cent four years ago. "We have moved in that direction to get away from Japanese competition in standard machines," he says.

He believes the group's development of its numerical controls had been helpful. "There are many things that need to be done that standard controls do not provide, such as adaptive control and sensing."

He says that more than 200 of the group's 2,500 employees work on electronics developments.

Like the other big US factory automation groups such as Cross & Trecker and Cincinatti Milacron, G & L seeks to compete around the world in factory automation markets. To this end, it would like to set up an affiliate in the Far East, probably in China.

It is also changing Giddings & Lewis-Fraser, its Scottish subsidiary, from a maker of a limited line of machine tools into what Mr Jones calls the G & L of Europe. The Scottish company carried out one of the group's first flexible manufacturing system contracts, a £6m project for UK mining equipment maker Anderson Strathclyde, completed last year.

Mr Jones says there is still rationalisation to take place in the factory automation industry. "A lot of people have been hanging on in the hope that the economic recovery would make everyone well. But it has not. the recovery is over."

Watershed for computer aided industry

Product Design & Engineering

GEOFFREY CHARLISH

IN MANY ways, 1985 was a watershed for the computer-aided design (CAD) industry. The acceptance of design systems based on the personal computer (PC) was much greater than soma executives imagined in the established big-system CAD companies like IBM, Intergraph, Computervision, Calma, McDonnell Douglas and Applicon. Their strategies had to change.

Further, as the PC hardware and software go on to offer more and more power for less and less real expenditure, the attractions of e personal, desktop design unit will increasa and more and more engineers will be able to have their own.

Charles Foundyller of Daratech, the Cambridge, Mass, market research company, thinks IBM is about "to change the whole picture" with a desktop system capable of 2m instructions per second (MIPS) and selling at $10,000.

The key figure is the "cost per seat" and the vendors of big, multi-user systems are having to reduce their $50,000 to $100,000 price tag because complete, stand-alone PC-based systems, in spite of their performance shortcomings, are selling well at prices nearer $15,000-$20,000.

The sales growth rate of the industry is still e respectable 25 to 30 per cent a year, having reached 50 per cent in 1984. However, although global turnover for 1985 will top $3.5bn, profits are now harder to come by. Losses and layoffs occurred during the year and Foundyller expects Computervision, for example, to report losses of $80m.

In fact, many big companies that could use CAD are indeed doing so and are busy absorbing the technology. Capital spending is now more cautious, competition is acute, and some buyers are holding back to see the outcome of the PC-CAD boom, how the big names in the business will react, and what new technology is round the corner.

There is also a feeling that the CAD equipment makers, who have moved into computer-aided engineering (CAE), computer-aided manufacturing (CAM) and more recently, computer integrated manufacturing (CIM), have spread feelings of unease and "techno-fear" among lesser mortals, especialy in Europe.

CAE extends the straightforward dimensional problems of the on-screen design of a product (CAD) to its engineering behaviour (stress, dynamics, thermal performance for example), while CAM does the same thing for manufacturing by bringing in materials quantities, metalcutting instructions and so on.

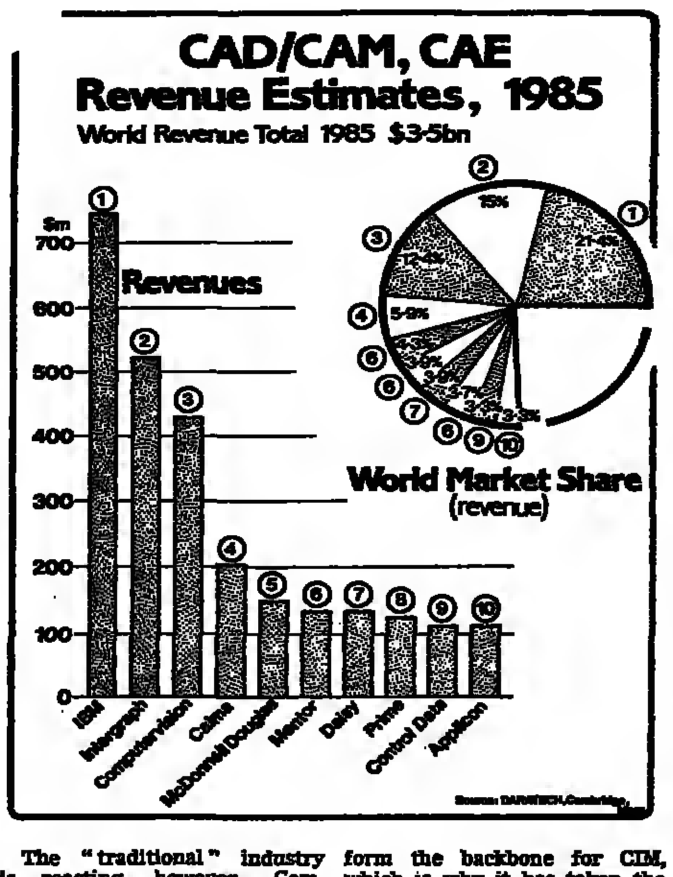
Down market

CIM embraces the lot, by aiming to interconnect the CAD/CAM/CAE computers with others (sales ordering, bill of materials for example) and with robot controllers in a totally controlled "factory of the future."

Shape and dimensions in mechanical engineering and basic operating functions in electronics are the starting point for all that happens subsequently in design and manufacture of e product—so CAD forms the foundation of e database which can completely describe the product to allow CIM to be used.

The electronics industry has embraced such ideas more readily than mechanical engineering. It is driven by real needs because nowadays the design of, say, a microprocessor is almost impossible without computer-aided engineering.

The PC-based system has been a way of driving CAD down market and the use of a micro instead of mainframe or minicomputer results in facilities that are not as rudimentary as might be supposed. On-screen response times can be slow, but recent market research in the US shows that PC-based systems often give 70 per cent of the benefit for 20 per cent of the cost.



The "traditional" industry is reacting, however. Computervision clearly believes "if you cannot beat them, join them" and has introduced Personal Engineer, an electronic design hardware/software package based on the IBM PC-AT. It runs software compatible with CV's bigger systems and so is aimed at existing as well as new customers.

Applicon, the Schlumberger subsidiary which has been losing market share for several years, has taken the bull by the horns and embraced the CIM approach by declaring that before the end of 1986, it will be offering "open system" CAD/CAM/CAE.

"Open systems interconnect," or OSI, is assuming increasing importance for factory communication since General Motors announced its MAP initiative last year. MAP stands for "manufacturing automation protocol" and GM now requires its own automation equipment suppliers to use it.

MAP uses the "open" standards being formulated by the International Standards Organisation which, in essence, allow any make of automation equipment to communicate with any other. Applicon—and many other experts in this area—believe that a company's existing CAD/CAM/CAE system will form the backbone for CIM, which is why it has taken the plunge.

The company will put all its workstation and computing products on to Ethernet, the local area network system and later will consider a wide band (high capacity) network. It will supply specific interface units allowing several other CAD and computer makers' products to genuinely interwork.

Design and other data will be distributed throughout the network and all will be under the control of a "data manager" the company will introduce next year.

CAD technology will be driven forward by the ever-increasing computing power available per pound spent. Most of the big "chip" companies now have full-blown 32-bit microprocessors, doubling the power of the previous 16-bit devices. These chips will come down the usual price/volume curve, eventually giving better CAD at little more cost.

Similar hardware and some powerful software from newer companies such as Convex Computers will begin to alter the top end of the market as "supercomputers" start to become available at minicomputer prices, allowing even more complex computer modelling of products before they are made.

PROFILE: WARWICK UNIVERSITY

BY ARTHUR SMITH

Pace hotting up for pioneering centre

THE PACE of activity is hotting up at Warwick University, identified by the Government as well-placed to become a national focus for promoting advanced manufacturing technology.

Mr Harold Musgrove, chairman of Austin Rover, heralded the start of Industry Year by cutting the first sod this month of e £5m advanced technology centre to be opened later this year on the campus. Work is under way on e £1.5m information technology centre for manufacturing industry.

The university, offering consultancy to companies from its Centre for Manufacturing Renewal, already boasts of training facilities with more than £2m worth of compnter-aided design and manufacturing equipment.

Warwick has pioneered a post-graduate course to train engineering "highfliers" in Britain's leading manufacturing companies, including Jaguar, Lucas, Land Rover, Rolls-Royce, GKN, British Aerospace, Short Brothers and Dunlop Aviation.

The university's success in breaking down barriers between academics and industry is illustrated by the companies that have set up the adjacent science park: Computervision, Automatix and Westinghouse, all US leaders in automated systems.

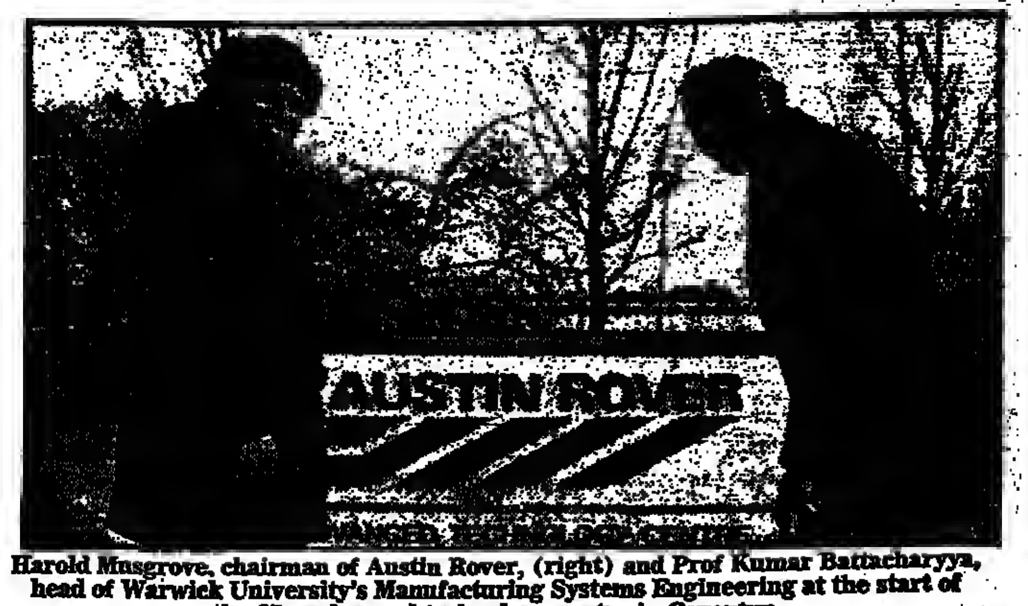
Two other US corporations have embarked upon a £1m partnership on the campus to promote and develop computer-integrated manufacturing: Digital Equipment, the computer and software supplier; and Cincinatti Milacron, the machine tool company.

"Proving that industry and the university can work together to apply new technologies has really caught the imagination," says Mr Kumar Bhattacharyya, professor of manufacturing systems, whose work has been the key to Warwick's success.

He is forthright in his criticism "UK manufacturing industry is notorious for not doing its research and development. That is why products are so bad."

He makes an exception of sectors such as chemicals, plastics and electronics but is scathing about the decline of "the hard mechanical industries." The traditional engineering industries at the heart of the first industrial revolution were not attractive to bright students and had not demonstrated innovation or flair.

"That is the attraction of operating from a university base. We are carrying out medium and long-term research oriented at a vital sector—automobiles, aerospace and electronics."



Harold Musgrove, chairman of Austin Rover, (right) and Prof Kumar Battacharyya, head of Warwick University's Manufacturing Systems Engineering at the start of the £5m advanced technology centre in Coventry

Prof Bhattacharyya says a university environment ensures a continuous throughout of talented individuals and fresh ideas. Equally, the opportunity to work with industry made university research more relevant.

He points to the £15m of private sector funding that has been committed to his projects. "If industrialists are putting up the money they will be committed and want results. It is wrong to depend upon government funds for research and development.

"We are judged by results. You know you have to be good to succeed. It sharpens the mind."

Manufacturing systems were all-embracing, spanning developments across science and technology. Warwick aimed to offer to industry the facilities to conceive new systems, simulate them et the university, and then put them into practice in the factory.

"We need to take views on likely developments over three to five or even 10 years. But for many companies it is the more immediate issue of day-to-day survival to ensure they can take such a longer term view," he says.

The Austin Rover Technology Centre, to be run jointly by the university and the car company, provides an example of the multi-disciplinary epproach Prof Bhattacharyya says is so important.

The 25 "top-flight" academics being recruited are likely to include a psychologist and chemist to work alongside conventional engineers. The centre aims at ensuring the rapid transfer of advanced technology into manufacturing systems and will not only carry out research for Austin Rover but also work on a contract basis for other companies.

Opportunities for manufacturing industry offered by developments in information technology is the reason for pressing ahead with a £1.5m centre at the university.

"Senior UK company executives spend far too much time in meetings, to protect their empires and check unnecessary details. There is e fundamental problem of communications," Prof Bhattacharyya says.

An impetus to promoting computer-integrated manufacturing is also expected from the joint venture under which Cincinatti Milacron will supply flexible manufacturing equipment and Digital Equipment the computers and software to provide the links and controls. The demonstration unit on the campus will be made available for companies to identify new applications and train specialists.

Mr Derek Rimmer, director of engineering at Cincinnati, says the collaboration between the companies will be mutually beneficial. "We are at the sharp end and know the problems of the manufacturer. Digital can help come up with the answers."

Development of computer integrated manufacturing is important to Cincinatti's fightback. The UK subsidiary has suffered with the rest of the machine tool industry from weak demand and Japanese imports. Employment has been cut from 2,200 to 800.

The UK subsidiary of Digital, with 5,000 employees and an annual turnover of more than £800m has grown rapidly. Mr David Wynn, manufacturing industries marketing manager, says customers for the new technology will tend to be already mature users of the computer.

"They might already be operating some limited form of flexible manufacturing system. The next stage is to link the systems and start to realise the potential of the technology available."

Prof Bhattacharyya draws attention to the day-to-day links between the university and industry established by a pioneering postgraduate course in manufacturing systems, involving 300 students from leading engineering companies.

The course is funded by the private sector, with the students remaining full-time employees of their own companies and spending most of the 2½-year degree on problem-solving projects within the factory.

Prof Bhattacharyya says the degree is a unique partnership. The syllabus is drawn up jointly with the university by the participating companies and performance is assessed both by academics and senior company executives.

"We are providing a new population of executives who have been able to draw upon the resources and inventiveness of the university to take the technology back to the workplace," he says.

Robots travel slow road

CONTINUED FROM PAGE ONE

Engineering Computers, e UK specialist publication, carries out an annual survey of UK engineering companies that use computers and other automated manufacturing equipment. Last year's survey found that only 3 per cent were using automatic welding and 4 per cent had installed automatic assembly systems. Even more surprising, only a third of plants appear to be using computerised production control.

These findings are backed up by suppliers. Mr Noel Davies, chief executive of the 600 Group, the UK licensee for Fanuc robots, says he has been disappointed at the low growth rate in robot sales.

"We have an overwhelming number of inquiries, but they are all of an educational nature," Mr Davies says.

He and other suppliers frequently say that users waiting for the technology to be fully developed could be making a grave strategic error.

Mr Teruyuki Yamazaki, chairman of Japan'e Yamazuki Machinery Works, admits that FMS technology is still not as economically effective as it could be. "There are technological edvances every day, but if you want to wait until it is complete, then you are going to be too late," he says.

"Your competitors will have gained more experience with it, and they will win out."

Mr Eynon Thomas, director of Jaguar, the UK car producer, says: "The equipment is improving all the time, but you have to take a risk and go ahead at some point."

Projected US Markets

	1985 $bn	1990 $bn	1995 $bn	Annual growth rate (%)
Manufacturing planning and control/communications	3.8	8.4	14.5	15
Process control	3.1	5.5	10.0	12
Programmable controllers	0.6	1.4	3.0	18
Sensors and actuators	2.4	4.7	9.3	15
Sub-total	9.9	20.0	36.8	15
CAD	1.7	4.5	12.0	22
Robotics	0.4	2.1	4.5	27
Machine tools	5.3	9.7	18.0	13
Automated inspection and test	3.0	7.2	12.0	15
Automated materials handling	5.0	8.9	15.0	12
Total	25.3	52.4	98.3	15

Source: Honeywell

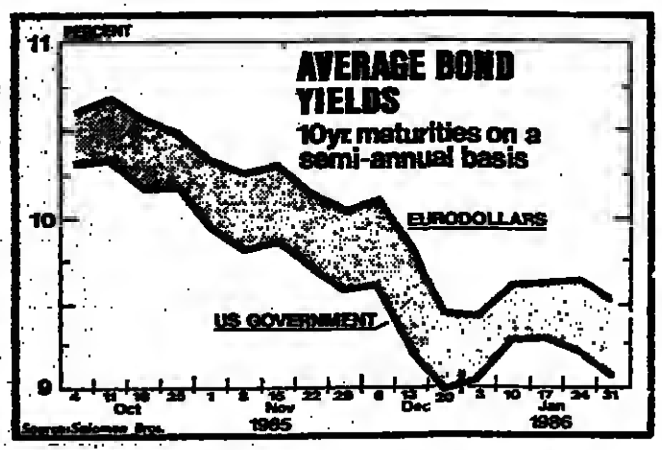
SECTION II – COMPANIES AND MARKETS
FINANCIAL TIMES
Monday February 3 1986

Retail investors lie low

EUROBOND TRADERS are sending out search parties. The retail investor is missing and has not been sighted for days, writes Maggie Urry in London.

"Perhaps they've all gone skiing," was one hopeful remark. But a more likely explanation came from another dealer: "They do not like the coupons, they do not like the market, they do not like the dollar."

The investors' absence is sorely felt. While the New York market has risen, Eurodollar bonds have been left far behind. Spreads – the difference in yield between Eurobonds and US Treasury bonds – have widened once more.



The chart shows average yields for 10-year bonds. But within the average of Eurodollar issues there is another divergence. US corporates, the borrowers that continental retail investors traditionally prefer, have been worse hit.

Many are now trading on yields much higher in Europe than they do in the US domestic bond market so they are unlikely to come to the Eurodollar market. On the other hand, the sovereign and supranational names favoured by institutional investors have had a less bad time.

Issues such as the Council of Europe, Eurofima, and the European Community deal from the week before were moving. Even the Italy and Finland bonds, though tightly priced, were finding some demand. What interest there is comes from institutional buyers, many of which are Japanese and Middle East based, who want top names and longer maturities. So 10-year bonds have performed better than five-year paper.

The floater market is still in difficult shape, but Barclays Bank's perpetual issue last week was an outstanding success. Even though the terms were the tightest yet seen among the UK clearing banks' perpetual deals, with fees of only 20 basis points, and the issue was increased from $500m to $750m, the bonds were still trading well on Friday at around 99.94. This success could persuade the other clearers to follow suit.

Away from the dollar market there are more signs of life among investors. The Euro-Australian sector has been in better form enabling Goldman Sachs to increase Bank of Nova Scotia's issue from A$50m to A$60m, and last week's two deals were trading within fees.

The Euroyen market is also faring better. The discount rate cut in Japan, and rumours of even lower rates to come, combined with a currency which seems unworried by lower interest rates, have encouraged investor interest.

Canada's jumbo issue, far from overloading the market, seems to have enlivened it further. The deal, though tightly priced, has the advantage that it should be a liquid issue, and the name is well known. It also makes the other deals look better.

On Friday Nomura International launched an issue for Austria with a redemption amount in yen related to the yen/dollar spot exchange rate at maturity.

If the rate is Y173.30 to the dollar, the redemption will be at par. If the yen appreciates beyond that, redemption will be lower, and if the yen is weaker the redemption amount will be higher.

The French franc market seems unstoppable, in spite of worries about a realignment in the European Monetary System appearing again. The Renault deal last week was slipped in as an extra for the January calendar. Today bankers in Paris are to agree the deals for the February list, with two borrowers, one foreign, one French, expected.

In the D-Mark market traders are now much less concerned by the size of a new issue calendar when it is announced. February's total of 26 deals with a value of DM 6.71bn would in earlier months have caused some concern. But now most dealers seem to think that they will not all appear, and in any case the fixed-rate market has been receptive to issues lately.

Only one floater is due in February, which should be a great relief to the market, especially if it turns out to be uncapped like the EEC's deal last week.

Commerzbank started the new list on Friday with a DM 300m issue for Dai-Ichi Kangyo Bank using the harmless warrants idea pioneered in the Eurodollar market and also applied to the Sallie Mae Euroyen issue.

The warrants, priced at $25 each which give the right to buy a non-callable issue with the same coupon and maturity as the host bonds, came in for some criticism though. Dealers said that they were difficult to place and were trading below the issue price. The host bond must be surrendered to exercise the warrants in the first five years. After that exercise is for cash, and the host bond is callable.

New issue activity has been lower in the Swiss franc foreign bond market over the last couple of weeks. That has allowed the market to remain stable, but with no clear trends.

Full-year losses at Amax top $600m

By Our Financial Staff

AMAX, the US natural resources group which last month embarked on a big reorganisation of its metal businesses, has reported a preliminary unaudited net loss of $103m, or $1.56 a share, for the fourth quarter of 1985.

The latest figure compares with a deficit of $259m a year earlier but, excluding special factors, losses are running at similar levels.

The 1985 quarter figure includes a charge of $45m to provide for losses on tungsten and base metals properties and investments.

There is also a $45m charge on the expected sale of the company's agricultural chemicals business, offset by a net gain of the same amount from the sale of the iron ore business.

For all 1985, the net loss was $621m, including a $350m second-quarter provision against losses on properties and investments. In 1984 the company lost $238.3m, or $3.86 a share.

Meanwhile, the company's subsidiary Amax Exploration has signed an agreement with Corfo, Chile's state development agency and the Chilean molybdenum company Molibdenos y Metales for the development and production of boric acid, potassium and lithium in the Atacama salt flats in northern Chile.

Total investment will be about $200m, and annual sales are expected to reach $130m. Amax will take a 63.75 per cent equity stake in the project.

● Noranda, the Canadian mining, energy and forest products group, will add about C$61m (US$42.9m) to its cash resources from the takeover of Tara Exploration and Development by Finland's Outokumpu mining group, writes Robert Gibbens in Montreal.

Noranda owns 48 per cent of Tara and Northgate Exploration 10 per cent.

Wellington joins renegotiations

FIRST SWEDEN, now New Zealand. The spate of renegotiations of note issuance facilities in the Euromarkets is set to continue this week when New Zealand announces new terms on its $1.5bn Citicorp-led facility, writes Peter Montagnon in London.

The deal was originally one of the first facilities pioneered as early as 1979 though its terms have been successively changed and the amount increased until it took its present form in 1984.

Paradoxically New Zealand is just in the process of drawing on the facility for the first time since the last revision. It has asked for bids on the issue of $100m in notes.

But that is unlikely to stop it seeking to reduce the total amount of the deal as part of its efforts to cut the cost. The 10-basis-point annual commitment fee is also likely to be reduced.

New Zealand has this year embarked on a major debt refinancing programme to cut its overall borrowing costs. In January it launched both a Yankee bond issue in the New York market and a floating-rate note to replace earlier, more expensive debt for a total of $500m.

Its decision to move also on the Euronote facility follows both the example of Sweden and a positive response to a much smaller recent $100m deal for Air New Zealand, despite very tight terms which included a 5-basis-point commitment fee.

New Zealand will, however, be launching its deal while the jury is still out on the terms of Sweden's refinancing. Sweden had asked for replies to be in by last Friday to its request for better terms on a $4bn facility arranged in 1984 which is to be cut in half.

At the weekend, however, many were still outstanding though this is thought to reflect the tight reply deadline rather than any fundamental market opposition to the deal.

Elsewhere, Standard Life, the Scottish insurance company, has awarded the mandate for a £175m credit to Citicorp after a fierce bidding process which saw offers from a total of 30 banks.

That has led to even finer terms than the market initially expected with the margins set at 10 basis points for the first three years rising to 12.5 points for the next seven.

The deal is denominated in sterling (though it can also be drawn in dollars) and since it is transferable counts as a securities market operation under Bank of England regulations. That has led to the appointment of Samuel Montagu as UK sponsoring bank.

Standard Life thus joined Belgium last week in the ranks of borrowers now able to raise funds in the Eurocredit market at margins less than ⅛ per cent. Belgium's $500m deal, led by Morgan Guaranty, is considered to bear very fine terms and represents a break with tradition as it was not mandated to a Belgian bank.

One explanation for this is that Belgium syndicated a $300m credit exclusively with local banks late last year, but the market is still watching carefully to see whether Belgian banks will support this deal too, amid some concern that, if they do not, syndication could be rather slow.

While East Germany is now concentrating on adjusting the terms of existing borrowings, the Soviet Union continues to raise money apace. National Westminster Bank has won a $200m equivalent mandate from Vneshtorgbank, its foreign trade bank.

The deal bears an interest margin of ⅛ per cent over eight years with repayments beginning after six, and funds will be made available in either D-Marks or Swiss francs.

NatWest also announced on Friday night that it had won a mandate from Thorn-EMI of the UK for a £200m, six-year credit facility although terms are not currently being disclosed.

Other sterling deals to emerge last week included n £75m uncommitted one-year bankers' acceptance facility for Sweden's Electrolux and a £50m, seven-year credit for Am Re/Aetna (UK). Both deals are led by S. G. Warburg, and the latter, which is designed to finance the borrower's purchase of the Tyndall Group from Globe Investments, will carry a margin of 20 basis points.

Terms are meanwhile starting to emerge for the £4.29bn commercial bank financing for the Channel Tunnel. The deal, to which 31 banks have already committed in principle between £40m and £200m apiece, will bear an initial margin of 1¼ per cent over London Interbank Offered Rates (Libor) until the tunnel is complete in 1993. Once revenue starts flowing, the margin will drop to 1 per cent.

The life of the borrowing will be 18 years, but it is expected that the credit will be extensively refinanced in the bond market once revenue starts to flow.

Also, none of the bank commitments will become available for drawing before £850m of equity is in place, around the third quarter of this year.

The credit will go into syndication later this year with the five founder shareholders – Banque Indosuez, Banque Nationale de Paris, Crédit Lyonnais, National Westminster and Midland – playing prominent roles.

● Romania has shelved plans to take out a $150m, five-year syndicated credit under a mandate awarded in December to Kuwait Foreign Trading, Contracting and Investment Co (KFTCIC), a KFTCIC official told Reuters. Romania felt it would be able to get better terms if it waited several months before coming to the market, he said.

EUROMARKET TURNOVER
Turnover ($m)

Primary Market	Straights	Conv	FRN	Other
US$	2,027.8	–	2,718.3	205.2
Prev	2,305.2	–	653.8	245.5
Other	1,319.3	–	707.5	7.0
Prev	842.3	0.9	569.8	30.6
Secondary Market				
US$	18,871.8	869.3	11,165.9	1,854.7
Prev	22,115.4	937.5	13,385.0	1,949.3
Other	6,486.4	160.1	1,202.1	2,817.3
Prev	6,832.2	126.6	3,199.1	2,185.8

	Cedel	Euroclear	Total
US$	11,206.6	27,597.4	38,804.0
Prev	12,164.0	29,427.7	41,591.7
Other	6,768.0	5,731.7	12,499.7
Prev	6,912.2	6,675.0	13,587.2

Week to January 30 1986 Source: AIBD

Scandinavian Bank profits rise 17%

BY NICK BUNKER IN LONDON AND WILLIAM DULLFORCE IN GENEVA

SCANDINAVIAN Bank, the London-based consortium bank with assets of £3.27bn ($4.6bn), has reported a pre-tax profit for 1985 of £14.2m, an increase of 17 per cent on the 1984 figure.

Improved earnings allowed the bank to double its general provision against loss, said Mr Garrett Bouton, the bank's managing director. But an increase in tax charges cut after-tax profits to £9.06m, down from nearly £11m the previous year.

The bulk of the gains in total revenue came from an increase in net interest income, combined with extra profits from foreign exchange dealing and from the Geneva-based investment management service operated by Banque Scandinave en Suisse (BSS), which is jointly owned by Scandinavian Bank and the Northern Trust Company of the US.

There were also particularly strong gains in Australia, where Scandinavian Bank acquired 100 per cent ownership of n local merchant bank, said Mr Bouton. But in London profits from Eurobond dealing had been approximately halved to £600,000 after record results in the previous year.

Banque Scandinave en Suisse, having absorbed losses incurred in 1981-83, almost doubled its net earnings to SFr 8.5m ($4.2m). It plans to expand its investment management operations this year in Zurich and via a new company to be established in London.

INTERNATIONAL CAPITAL MARKETS

US MONEY AND CREDIT

Treasury refunding will test positive mood

WALL STREET bond prices moved higher again for the third consecutive week in spite of little change in US money market rates.

Spurring the advance was the Japanese discount rate cut — which again raised hopes of a similar move in the US — and a consensus that the sharp decline in oil prices will buoy economic activity but that its positive impact on inflation will more than *outweigh* this negative factor for the credit markets.

The markets's resolve will be tested this week by the record $23bn quarterly refunding comprising $9bn of three-year notes on Tuesday, $7bn of ten-year notes on Wednesday — coupled with an additional $1bn in foreign-targeted notes — and $7bn of 30-year bonds on Thursday.

In the midst of the auctions President Ronald Reagan will deliver his State of the Union address — delayed from last week by the space shuttle tragedy. Mr Philip Braverman of *Briggs Schaedle, says* the President will call for greater congressional efforts to reduce the budget deficit, propose the sale of some government assets, and consider ways to stabilise the dollar "all of which would make it easier for the Fed to ease."

Mr Braverman believes the President will especially emphasise the need for congressional action to cut domestic spending if Gramm-Rudman is found unconstitutional.

A Federal court could rule as early as this week on this issue which would then be sent to the Supreme Court for ruling probably late this summer.

The ½ point reduction in the Japanese discount rate to 4.5 per cent had been widely expected and largely discounted by market traders. Nevertheless it renewed hopes that the Federal Reserve Board may now have additional flexibility to ease.

Some market economists, including Mr Braverman, believe the Fed has already shifted to a slightly easier monetary policy stance as evidenced by the lower discount window borrowings in recent weeks.

"This should translate into a drop in the funds rate to at least 7¾ per cent or perhaps 7½ per cent," says Mr Braverman, who argues that "The latest easing is probably in response to the consequences of the oil price slide, improved inflation prospects, Japanese easing moves, *and to insure a healthier* US economy."

However many Wall Street economists say they have not detected any shift in Fed policy and do not expect such a move soon. Among them Dr Henry Kaufman of Salomon Brothers says, "The Federal Reserve Board will not ease monetary policy in the current environment, so short-term rates are likely to remain at or near current levels."

Mr David Jones of Aubrey Lanston agrees, saying: "The reduction of Japan's discount rate was construed by some market participants as affording the Fed greater flexibility in seeking easier monetary conditions. It seems likely however that Fed officials will resist easing policy further in the near-term."

In spite of these divergent views there is widespread agreement on two issues.

First, the fall in oil prices are seen as spurring economic activity — although many economists believe the record December trade deficit could lead to a further downward revision in 1985 *fourth-quarter* real Gross National Product. US investors will be watching for the January employment data due out on *Friday as an* indicator of whether December's strong showing was a fluke.

Meanwhile, Citicorp economists are now predicting real GNP growth of 4 per cent in the 1986 first half and Manufacturers Hanover economists note. "In spite of an initial chorus of negativism, lower oil prices will turn out to be a welcome tonic for global growth."

Second, Wall Street economists widely view the oil price decline as having a major positive impact on investor inflation expectations — and hence potentially helping long-term rates edge down further.

Salomon Brothers economists *calculate that if the* oil price decline holds, the consumer price index (CPI) and producer price index (PPI) could be as much as 0.8 per cent and 2 per cent lower respectively in 1986. "That prospect could buoy bond prices, even as the chances of stronger real economic growth improve," says Dr Kaufman.

While the refunding will provide the first real test for this bullish scenario, the markets have already signalled an underlying positive mood.

The continued price rally last week sent bond yields at the long end back towards their early January lows. The Treasury long bond closed a full point up at 105¼ to yield 9.33 per cent compared with 9.42 per cent a week ago. Most Government bond prices posted gains of between ⅝ and 1¼ points. In contrast most short-term rates were little changed on the week producing a further flattening in the Treasury yield curve.

In the corporate markets bond prices rose by an average of one point paced by strong gains early in the week, which prompted a flurry of new issue activity. *New issue* yields fell by between ten and 25 basis points amid new issue volume of around $1.5bn.

Paul Taylor

US MONEY MARKET RATES (%)

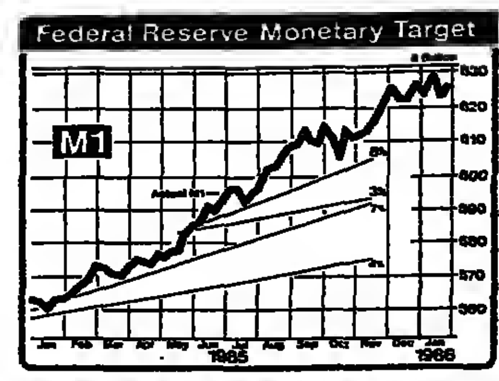
	Last Friday	1 week ago	4 wks ago	12-month High	12-month Low
Fed Funds (weekly average)	7.83	7.91	9.91	9.91	7.10
Three-month Treasury bills	6.98	7.00	7.97	8.75	6.67
Six-month Treasury bills	7.05	7.10	7.13	9.20	6.81
Three-month prime CDs	7.74	7.85	7.81	8.40	7.33
30-day Commercial Paper	7.10	7.10	7.86	8.96	6.50
90-day Commercial Paper	7.60	7.65	7.70	9.20	7.00

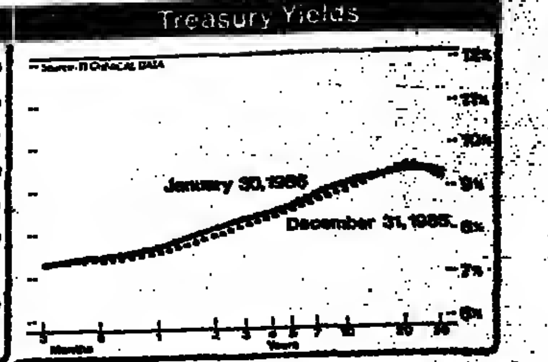
US BOND PRICES AND YIELDS (%)

	Last Friday	Change on week	Yield	1 week ago	4 wks ago
Seven-year Treasury	99¾	+ ¼	9.57	9.01	(new)
20-year Treasury	99¾	+ 1¼	9.46	9.61	(new)
30-year Treasury	105¼	+ 1	9.33	9.42	9.28
New 10-year "A" Financial	N/A	+ 1¼	9.80	10.00	9.90
New "AA" Long utility	N/A	+ 1¼	10.50	10.63	10.35
New "AA" Long industrial	N/A	+ 1¼	10.38	10.50	10.19

Source: Salomon Bros (estimates).

Money Supply: In the week ended January 20 M1 rose by $3.7bn to $626.3bn.





UK GILTS

Base rates seem safe but pitfalls ahead

THE GOVERNMENT has weathered another week without giving in to pressure for a rise in base lending rates. In fact, with three-month money market rates down to about 12¾ per cent, the rise that looked inevitable two weeks ago now seem more remote.

There are still some nasty pitfalls this week, however. The meeting of Opec ministers may yield no concrete results, but it would need little more than ominous noises to send the *oil prices* tumbling, and with sterling. And tomorrow's figures on money supply and official reserves are widely expected to be uninspiring.

Forecasting January's money *supply figures is* a more *than* usually thankless occupation, since the Bank of England does not give advance warning of seasonal adjustments. "The market will not take any *interest in the money supply* this month unless it is clear that the rise in MO has swung the Government behind a rise in base rates," says Mr Malcolm Roberts of brokers Laing and Cruickshank.

A figure of £2.5bn for bank lending might cause more anxiety, but the market is already discounting a good deal of this and still has been resilient for the last week. With companies gearing up to take advantage of capital allowances before they come to an end on April 1, it would be surprising if bank lending were not now strong.

Possibly more alarming is the outlook for official reserves. Once again, bad news is generally expected, but the market may not be discounting a fall of more than $400m. If reserves drop by as much as the $650m forecast by stockbrokers James Capel, the impact on market sentiment could be damaging.

It is one thing for the authorities to abandon their exchange rate targets with a good grace and allow sterling to fall; it is quite another if it turns out that they were trying to sustain the target and threw good money at it to no avail.

This will not matter if Opec ministers manage to give the impression that they are going *to pull together and lower their* production. It would take a full extraordinary meeting—not this week's committee—to take any real action, but soothing noises can sometimes do the trick.

The more immediate problems caused by the falling oil price are for the time being predominant, but there is still room for concern over its longer-term effects. While some brokers argue that there is still scope for £500m to £1bn of tax cuts in next month's Budget, others fear that the Chancellor will have to exceed the present target Public Sector Borrowing Requirement of £7.5bn for 1986-87, even without tax cuts.

Mr Keith Skeoch, chief economist at James Capel, says that the revenue loss of £5bn in 1986-87 arising from an oil price of $20 a barrel and an exchange rate of $1.40 is likely to result in a PSBR outturn of £8.75bn, broadly unchanged from the current year. He forecasts further losses of oil revenues in the following year at a time when general tax revenues will be depressed by a slowing economy and when *spending* will be under pressure.

All this would lead to a PSBR of £11bn, which is 2.75 per cent of GDP, compared to the 1.75 per cent targeted in the Medium Term Financial Strategy. "With no room for tax cuts and rising unemployment ahead of the next election fiscal problems look set to compound increasing political worries."

Political worries were already at work in the market ten days ago, when index-linked gilts gained 1¼ points in one day, and they continued last Monday with further gains of ⅝ point in the index-linked sector. By Tuesday, however, they were gone, as the market celebrated Mrs Thatcher's *performance* in Parliament by exhausting the tap of Treasury 10 per cent 2003 at a price of £35¼.

That leaves the market untapped, but there is little pressure for funding in the current year, and the authorities have made a nice start on next year's funding with the second call on its latest issue.

George Graham

FT/AIBD INTERNATIONAL BOND SERVICE

US DOLLAR STRAIGHTS	Issued	Price	Chg. on week	Yield
AHFC O/S Fin 11¾ 94	100	100	+0¼	10.24
AIOC 11 88	75	105½	+0⅛	9.82
AIOC 11⅞ 90	100	101¾	+0¼	11.39
Amer Savings 12 89	125	103⅞	−0½	10.46
Amer Savings 12¼ 88	100	104¼	0	10.35
Asian Dev Bk 11¾ 93	100	110⅞	+0¼	9.10
Australia 11¾ 90	100	109¾	+0½	8.72
Australia 11¾ 95	300	112	+0⅛	9.83
Australia 11¾ 96	100	114⅞	+1⅛	9.64
Austria 15⅞ 88	75	112¾	+1	8.92
Avon Fin 10¾ 92	100	99¾	−0¼	10.39
Bk Nova Scotia 13⅞ 87	100	105⅞	0	9.01
Bank of Tokyo 12⅝ 92	100	112	+1¼	9.66
Bank of Tokyo 13¾ 91	100	117¼	+0½	0.37
Bank of Tokyo 13⅞ 89	100	113⅞	+0⅛	8.18
Bergen Bank 11⅜ 90	75			
BP Capital 11¾ 92	250	106⅞	+1	9.64
Br Col Hydro 11¾ 93	200	112¼	+0⅝	9.42
Br Col Hydro 12⅞ 14	200	119¾	+1¼	10.66
Br Col Hydro 12⅞ 13	250	119¾	+2¼	10.66
Britoil Fin 11⅜ 90	125	105⅞	0	10.29
Caisse Nat En 11¾ 90	125	112¼	+0⅝	9.67
Canada 10⅞ 88	500	105⅞	+0⅛	8.48
Casio Computer 5⅞ 89	80			
CBS Inc 11¾ 92	100	103¾	+0¼	10.89
Centrust S & L 0 10	1.2bn	8¼	+0⅛	10.78
Chesebrough 12 93	100	105⅞	0	10.84
Citicorp O/S 10¾ 90	100	101¾	+0¼	9.80
Citicorp O/S 11⅜ 90	100	104	+0½	10.57
Citicorp 11¾ 92	100	106¾	+0½	10.33
Citicorp 11¾ 97	200	105⅝	+0¼	10.82
Citicorp O/S 14 94	100	101⅞	+0⅛	13.56
CNCA 11¾ 92	125	108⅞	+0¼	9.65
CNCA 13¾ 91	100	114¾	+0¼	9.54
Coastfed Int 12¾ 88	125			
Coca-Cola 11¾ 88	100	104¾	0	9.97
Comp Bancaire 13⅞ 90	75	106¾	+0¼	9.62
Continental Grp 11¾ 93	75			
Creditanstalt 13⅞ 91	100	95⅞	+0¼	11.48
Dai-Ichi Kangyo 12¾ 90	100	114¾	+0⅛	0.65
Denmark 10⅞ 90	100	110¾	+0¼	9.31
Denmark 11¾ 92	100	103	+1¼	9.93
Denmark 12⅜ 92	250	108⅞	+0½	9.68
Denmark 13 91	100	102¼	+0½	12.17
Denmark 13 92	100	113¾	+1	0.56
Denmark 13¾ 91	100	108⅞	+3½	11.42
Denmark 13⅞ 89	100	114⅞	+0⅛	9.71
Denmark 14 91	100	110¾	+0½	0.05
Digital Equip 11¾ 89	150	110¼	+0¼	11.33
Dutch St Mines 11¾ 91	150	106⅞	+0⅛	8.27
Exportfinans 11¾ 92	100	104⅞	0	10.18
Exportfinans 11⅞ 90	100	108	+0⅛	9.46
Elec de France 11⅞ 93	100	106⅞	+0½	9.81
Elec de France 12⅜ 87	150	107⅞	+1	8.38
EEC 11 87	350	108⅞	+0⅛	8.44
EEC 11⅞ 90	100	103⅞	0	8.49
EEC 12 93	100	108⅞	+0⅛	8.09
Elf-Aquitaine 10⅞ 89	100	112¾	+0¼	8.53
Ericsson L M 10⅞ 88	100	107⅞	+0¼	9.22
Euro Inv Bk 11¾ 90	200	102	+0⅛	9.22
Euro Inv Bk 11¾ 91	73	109	+0¼	9.12
Euro Inv Bk 12½ 90	100	106½	+0¼	9.91
EDC 9⅞ 88	200	111¼	+0¼	9.02
EDC 10 88	125	102¼	+0¼	8.89
EDC 10⅞ 89	100	102¼	+0¼	10.51
EDC 11⅜ 89	150	103⅞	+0¼	8.90
EDC 12 89	100	108	+0⅛	8.77
EDC 13⅞ 87	100	109¾	+0⅛	8.90
Fed Dept Store 11 90	100	108¼	+0⅛	9.58
Finland 11⅞ 88	100	105¾	+0⅛	8.32
Finland 12⅜ 94	75	105¾	−0⅛	8.54
Finnish Export 12¾ 87	75	112⅞	+0⅛	0.96
Firstfed Mich 1 13¾ 89	125	106⅛	+0½	0.49
Florida Fed 12⅞ 89	100	100	−0⅛	10.30
FNM 11⅞ 91	300	104½	−0⅛	10.61
Gen Elec Cred 0 96	600	106⅞	+0⅛	8.56
Gen Elec Cred 9⅞ 91	700	39	+1¼	8.44
Gen Elec Cred 10⅞ 90	200	102⅞	+0¼	8.17
Gen Elec Cred 11 91	200	103½	+0⅛	9.50
Gen Elec Cred 11¾ 87	200	105	+0⅛	8.88
Gen Elec Cred 12 94	200	104⅞	0	10.88
Gen Foods Cap 11¾ 90	200	108⅞	+0⅛	10.52
General Mills 12 91	75	105½	+0¼	8.82
GMAC 10 88	100	108¾	+1¼	9.84
Gen Motors Acc 10⅞ 90	200	102½	+0¼	9.63
Gen Motors Acc 11¾ 90	200	103	+0⅛	8.56
Gen Motors Acc 13 89	100	105¼	+0⅛	8.76
GTE Finance 12 95	200	100	+0⅛	15.18
Gulf Oil 10⅞ 94	75	102¼	+0⅛	11.50
GZB 14 91	100	99½	−1	10.33
Holl Air Fin 12¾ 91	100	115⅞	+0½	10.03
Household Fin 11¾ 92	100	105⅞	+0¼	10.79
IBM 9⅞ 88	100	105⅞	+0¼	10.35
IBM (WTC) 10⅞ 89	200	102⅞	+0¼	8.35
IBM Credit 11 89	300	103⅞	+0⅛	9.85
IC Industries 8¾ 97	100	104⅞	0	8.47
IC Industries 12 90	35	98¾	+0⅛	8.67
Ind Bk Japan 10⅞ 92	75	104⅞	+0½	10.88
Ind Bk Japan 10⅞ 95	100	105⅞	+0⅛	0.41
Ind Bk Japan 11¾ 89	100	106⅞	+0¼	9.85
Ind Bk Japan 11⅞ 91	125	106⅞	0	9.02
Ind Bk Japan 13⅞ 91	100	109¾	+0⅛	9.58
Int-Amer Dev 12¾ 91	125			
Int-Amer Dev 11¾ 94	150	113¾	+1	9.53
Int Paper 12 91	200	110¼	−0⅞	10.06
Int Stand Elec 97	75	104¾	+0¼	10.83
Int Stand Elec 12 96	112	30½	0	11.37
ITT 11¾ 89	75	104⅞	+0⅛	11.17
ITT Credit Corp 10⅞ 98	125	105⅞	0	8.10
Japan Airlines 12½ 94	75	103¾	+0½	0.50
Japan Dev Bk 10⅞ 92	70	112½	+3¼	10.17
Kellogg Co 10⅞ 90	50	104⅞	+0⅛	8.66
Kellogg Co 11¾ 92	100	104½	+0⅛	8.43
Kimberley-Clark 12 94	100	106¾	+0⅛	0.73
Kyowa Fin HK 12⅞ 90	100	111¾	+0⅛	0.94
Long Term Cred 10⅞ 90	100	111¾	+1	8.57
Long Term Cred 11 90	100	106	0	0.26
Long Term Cred 11⅞ 89	100	105¾	+0⅛	8.23
Long Term Cred 12 93	100	107¾	+0⅛	8.14
Macy R H 11¾ 91	100	112¼	+0⅛	8.57
Macy R H 11¾ 95	100	102½	0	11.06
Manitoba 14⅞ 91	100	102¼	+0⅛	11.33
Marubeni 11¾ 01	150	121	0	8.91
McDonalds Fin 11¾ 94	100	105	+1	10.10
Merrill Lynch 12½ 94	75	107⅞	+0⅛	10.26
Minebea 8⅞ 89	100	103	−0⅛	11.91
Mitsubishi 5⅞ 88	100	0		
Mitsubishi Cp 10½ 92	100	0		
Mitsubishi Cp 10⅞ 95	100	104½	0	8.48
Mitsubishi Cp 12½ 91	200	103¾	+0½	10.05
Mitsui Eng 7⅞ 89	100	113⅞	+0⅛	9.18
Mitsui Fin 12¾ 92	50	105	−2½	6.22
Mitsui Tst Fin 12 91	100	103¾	+1¼	11.46
Mobil Corp 10⅞ 90	100	110⅞	+1	8.31
Montreal City 12½ 91	200	102⅞	0	8.43
Mgn Guarnty 12⅞ 89	70	110	+0⅛	8.90
Morgan J P 11¾ 92	150	107⅞	+0½	0.26
Mount Isa Fin 13⅞ 97	100	100	+0⅛	9.89
Ned Gasunie 11¾ 90	100	105¾	−0⅛	0.21
Ned Gasunie 11¾ 91	75	107¼	+1⅛	8.27
N Eng Lf Mtg. 11¾ 95	75	107⅞	+0⅛	8.43
Newfoundland 13 91	149	108⅞	−0⅛	10.10
Nippon Crd Bk 13⅞ 89	75	110¼	−0⅛	10.25
Nippon Tel Tel 11¾ 90	100	113	−0½	8.24
Nippon Tel Tel 12⅞ 91	100	111¾	+2⅛	7.90
Nissho-Iwai 6½ 89	100	114⅞	+2⅛	9.19
Nomura 8⅞ 89	10	112	−2½	2.34
Nova Scotia 11¾ 91	100	173	+8¾	0.90
Nova Scotia 11¾ 98	100	105⅞	+0½	10.10
Oester Post 12⅞ 89	100	108⅞	+0⅛	10.31
Ohbayashi-Gumi 7⅞ 89	75	108⅞	+0⅛	8.10
Ontario Hydro 11¾ 94	50	153	−0⅛	0.00
Ontario Hydro 11¾ 90	200	112¾	+8¼	8.36
Ontario 12½ 94	200	109⅞	+0¼	8.09
Pacific Gas & El 12 00	250	110¼	+0⅛	9.75
Penney J C 11¾ 90	75	107⅞	0	10.90
Penney J C 12⅞ 91	100	105	+0⅛	10.42
Philips Petrol 14 89	100	109½	+0⅛	10.42
Postipankki 11¾ 90	200	102⅞	−0⅛	12.87
Post-Och Kred 13½ 87	75	104¼	+0⅛	8.64
Privatbanken 12⅞ 95	50	106⅞	0	8.77
Prudential Ins 12¾ 97	100	110	−0⅛	10.71
Pru Rlty Secs 0 89	150	108	+0⅛	6.75
Pru Rlty Secs 11¾ 92	365	29¾	+0⅛	0.85
Pru Rlty Secs 12⅞ 95	388	107¾	+0¼	10.10
Quebec Prov 12¾ 94	545	110¾	+0¼	10.28
Queensland Gvt 11¾ 89	150	108¾	−0⅛	10.57
RBC 11¾ 90	100	107	+0¼	9.14
Rural Bk Aust 12 91	100	106⅞	+0⅛	9.51
Sanwa Bank 11⅞ 92	50	106½	+0⅛	10.27
Saskatchewan 10⅞ 92	100	106⅞	+0⅛	9.36
Saskatchewan 10⅞ 90	125	105¼	+0⅛	9.01
Saskatchewan 11⅞ 89	100	108½	+0½	0.96
Saskatchewan 15 92	150	124¾	+0⅛	8.78
Saskatchewan 16 89	125	117⅞	+0⅛	9.12
Scot Ind Fin 14⅞ 96	50	115	+0½	11.65
Sears O/S Fin 0 89	500	30	+0⅛	10.18
Sears Roebuck 10⅞ 91	150	104⅞	+1	9.42
Sears Roebuck 11¾ 91	150	108⅞	+1⅛	0.13
Sec Pacific 12 92	100	110⅞	+0⅛	9.10
Shearson/Amex 12⅞ 94	100	107⅞	−0½	10.65
Shell (Canada) 14⅞ 92	125	113½	0	11.22
Signal Comps 11¾ 92	125	106⅞	+0⅛	10.15
Standard Oil 10⅞ 89	150	103	+0⅛	8.29
Statoil 12 88	100	106⅞	+0⅛	8.52
Sumitomo Corp 10⅞ 92	100	103½	+1⅛	9.74
Sumitomo Fin 11¾ 92	150	108¾	+0⅛	9.58
Sumitomo Fin 12⅞ 91	150	112¾	+0⅛	9.60
Sumitomo Trust 12½ 92	100	110⅞	+0⅛	10.03
Sweden 11¾ 89	200	107⅞	+0⅛	8.97
Sweden 12⅞ 89	200	109⅞	+0⅛	8.87
Swedish Export 10⅞ 89	100	104⅞	+0⅛	9.97
Swedish Export 11¾ 88	100	106½	+0½	9.94
Swedish Export 12⅞ 89	100	108⅞	+0⅛	8.82
Taiyo Kobe 11⅞ 90	100	109	+0½	8.20
Taiyo Kobe 12 90	100	109½	+0⅛	9.48
Tenneco Corp 11¾ 89	150	104⅞	+0½	0.55
Texaco Capital 10⅞ 90	200	93½	−0⅛	12.34
Texaco Capital 11⅞ 93	200	98½	+0⅛	10.77
Texaco Capital 13½ 89	200	104⅞	+0⅛	11.91
Texas Instru 11⅞ 01	150	105⅞	+0⅛	10.45
Tokai Asia 12⅞ 91	100	110⅞	+1⅛	8.42
Tokyo Electric 0⅞ 89	10	0		
Tokyo Elec Pr 13⅞ 88	100	109	−2⅛	10.11
Toray Inds 11¾ 92	50	103¾	+0⅛	10.26
Toronto-Dom 12⅞ 89	50	107⅞	0	8.78
UBS 12⅞ 91	100	108⅞	+1⅛	10.16
Utd Tech 11¾ 92	150	107⅞	+0⅛	0.50
Veba 8 93	10	197½	+7½	−2.88
West LB 11¾ 90	100	108½	+0⅛	9.90
Westpac 12⅞ 92	100	110	0	10.31
Weyerhaeuser 11¾ 90	90	103⅞	+0⅛	10.43
World Bk 11 92	300	108⅞	+1⅛	9.17
World Bk 11¾ 90	200	108⅞	+0½	8.95
World Bk 11¾ 89	200	108⅞	+0½	8.73
World Bk 12 93	200	113½	+0⅞	9.48
World Bk 12⅞ 94	150	114⅞	+0⅛	9.66
World Bk 12⅞ 94	200	117⅞	+0⅛	8.71
Yasuda Trust 12⅞ 89	100	108⅞	+0⅛	9.18

FLOATING RATE NOTES	Issued	Price	Chg. on week	C.cpn
African Dev Bk ⅛ 96	100	100	0	8⅞
Arab Bank Corp ¼ 00	100	99⅞	0	8⅞
Banco Lavoro ⅛ 91	100	100⅛	0	8⅞
Banco di Roma ⅛ 89	150	100	−0½	8⅞
Bnco di Roma ⅛ 92 CU	75	99⅞	−0⅛	10⅞
Bankers Tr NY ⅛ 94	200	100⅛	0	8⅞
Bank of Greece ⅛ 94	150	98⅞	−0⅛	8⅞
Bk Montreal ⅛ 94 £	100	100⅛	+0⅛	11⅞
Bqe Nat Paris ⅛ 89	400	101	0	8½
Bqe Nat Paris ⅛ 95	400	101	−0⅛	8⅞
Bqe Nat Paris ⅛ 96	250	100⅛	0	8⅞
Barclays O/S ⅛†	600	100⅛	−0⅛	8⅞
BBL ⅛ 95	100	100⅛	0	8⅞
BBL ⅛ 89	100	100⅛	0	8⅞
BCI ⅛ 96	200	100⅛	0	8⅞
BFCE ⅛ 97	400	98⅞	+0⅛	8⅞
BFCE ⅛ 89	500	100⅛	0	8⅞
Belgium ⅛ 04	400	100	0	8⅞
CCCE ⅛ 05	200	100⅛	0	8⅞
CEPME ⅛ 98 £	100	100⅛	+0⅛	11⅞
Ch Manhattan ⅛ 09	400	100	0	8⅞
Chemical NY ⅛ 99	300	100⅛	0	8⅞
Citicorp O/S ⅛ 91 £	100	99⅞	0	11⅞
Citicorp O/S ⅛ 96	250	99⅞	+0⅛	8⅞
Citicorp Pen Pan ⅛ 97	250	100	0	8⅞
Commerzbank ⅛ 89	150	100⅛	0	8⅞
Creditanstalt ⅛ 96	150	100⅛	0	8⅞
Credit Comm ⅛ 95	100	100⅛	0	8⅞
Credit Foncier ⅛ 00 £	100	100⅛	+0⅛	5⅞
Credit Lyonnais ⅛ 98	300	100⅛	+0⅛	8⅞
Credit Lyonnais ⅛ 99	250	100⅛	0	8⅞
Credit National ⅛ 95 £	100	100⅛	+0⅛	11⅞
Dai-Ichi Kangyo ⅛ 96	150	100⅛	−0⅛	8⅞
Denmark 89	200	100	+0⅛	8⅞
Denmark ⅛ 90	500	100⅛	0	8⅞
Denmark ⅛ 95	250	101⅛	0	10
Eldorado Nuke 89	100	100⅛	0	8⅞
Elec de France ⅛ 99	400	101	0	8⅞
ENEL ⅛ 93 £	100	100⅛	+0⅛	12⅞
Exterior Int ⅛ 96	125	100⅛	+0⅛	8⅞
Ferro del Stat ⅛ 88	100	100⅛	+0⅛	8⅞
Ferro del Stat 97	420	98⅞	+0⅛	8⅞
Fiat Finance ⅛ 94	100	100⅛	+0⅛	8⅞
First Chicago ⅛ 97	200	99½	−0½	8⅞
First Chicago ⅛ 97	200	99½	0	8⅞
Ford Motor Cr ⅛ 91	200	99⅞	+0½	8⅞
GW O/S Fin ⅛ 94	100	98½	+0⅛	8⅞
Grindlays ⅛ 94	100	100⅛	0	8⅞
Interfirst Tex ⅛ 88	100	98⅞	0	8⅞
Ireland ⅛ 99	50	100	0	8½
Ireland ⅛ 93 £	90	100½	+0⅛	11⅞
Ireland ⅛ 94	200	100⅛	0	8⅞
Ireland ⅛ 96 £	100	100⅛	+0⅛	11⅞
Ireland ⅛ 97	300	100⅛	0	8⅞
Ireland ⅛ 99	300	100⅛	0	9⅞
Italy ⅛ 94	1bn	100	0	8⅞
Italy ⅛ 89	500	100	0	8⅞
Kleinwort Benson ⅛ 96	100	100⅛	0	8⅞
Korea Exch Bk ⅛ 94 £	100	97¾	0	12
Lincoln S & L ⅛ 96	100	99⅞	+0⅛	8⅞
Malaysia ⅛ 93	500	100	0	8½
Malaysia ⅛ 94	600	99⅞	0	8⅞
Man Hanover ⅛ 94 £	75	98	−0⅛	11⅞
Marine Midland ⅛ 94	125	100	0	8⅞
Marine Midland ⅛ 98	125	100	0	8⅞
Marine Midland ⅛ 09	150	100	0	8⅞
Mellon Bank ⅛ 96	250	100⅛	+0⅛	8⅞
Midland Intl ⅛ 99	200	100⅛	0	8⅞
Mitsui Fin ⅛ 96	100	100⅛	0	8⅞
Morgan Grenfell ⅛ 94	50	99⅞	−0⅛	8⅞
Mtg Intermed ⅛ 10 £	50	100	0	12
Nat Bank Canada ⅛ 91	90	100⅛	0	8⅞
Natl Bank Detr ⅛ 96	100	99⅞	0	8⅞
Nat West Fin ⅛†	300	100⅛	−0½	8⅞
Neste Oy ⅛ 94	100	100⅛	0	9⅞
New Zealand ⅛ 87	350	100⅛	+0⅛	8½
NZ Steel Corp ⅛ 92	225	100⅛	0	8⅞
Oster Ln Bank ⅛ 88	100	100	−0⅛	8⅞
Oko Bank ⅛ 92	50	99½	0	8⅞
Portugal ⅛ 92	100	100	0	8⅞
Queensland Cool ⅛ 96	355	100⅛	0	8⅞
Renfe ⅛ 91	100	100	0	8⅞
Sanwa Intl Fin ⅛ 92	150	100	0	8⅞
SEAT ⅛ 93	100	100	0	8⅞
Security Pac ⅛ 97	250	99⅞	0	8⅞
Skopbank ⅛ 94	75	99⅞	0	8⅞
SNCF ⅛ 93 £	75	101	+0½	11⅞
Soc Generale ⅛ 90	250	100½	+0⅛	10⅞
Soc Generale ⅛ 94	250	100⅛	0	8⅞
Spain ⅛ 89	200	100	−0⅛	8⅞
Spain ⅛ 97	250	100⅛	−0⅛	6⅞
Standard Chart ⅛ 94	200	100⅛	0	8⅞
Sumitomo Trust ⅛ 94	100	100⅛	0	8⅞
Sweden ⅛ 89	500	99⅞	0	8⅞
Sweden 90	700	99⅞	0	7⅞
Sweden ⅛ 24	500	101	0	8⅞
Swedish Ex Cred ⅛ 92	125	103¾	+2⅛	10
Thailand ⅛ 00	60	98⅞	0	9⅞
Tokai Asia ⅛ 99	150	100⅛	0	8⅞
Toyo Trust Asia ⅛ 99	100	100⅛	0	8⅞
TVO Power ⅛ 04	100	98⅞	0	9⅞
Union Bank-Norw ⅛ 98	50	98½	0	9⅞
United Kingdom 92	2.5bn	100	0	7⅞
Wells Fargo ⅛ 94	100	96	+2⅛	8⅞
Wells Fargo MM ⅛ 00	50	99⅞	+0⅛	8⅞
Yorkshire Int ⅛ 94 £	75	99⅞	+0⅛	12⅞

CONVERTIBLE BONDS	Issued	Price	Chg. on week	Prem.
Ajinomoto 3 99	120	138¼	+3¼	0.48
Best Denki 5½ 97	10	205	+5½	1.56
Canon 7 97	50	235	+6½	−3.39
Daiwa Secs 5½ 98	60	213	+9	−1.68
Dev Bank Sing 8⅞ 89	10	72	−3	42.07
Eidors 11¾ 94	160	111¾	+1⅛	36.83
Elektrowatt 6 96	51	126¼	+0⅛	−6.62
Fujitsu 3 99	180	107¼	+4½	−0.57
Intec Inc 3 96	50	121	+7½	1.64
Korsagi Gumi 3½ 00	80	181	+8	11.48
LASMO 9¼ 98	44	91	−1½	48.41
Moet-Hennessy 7 99	50	151	+2	−36.52
Murata Mfg 3⅞ 00	100	145	+6½	47.23
Nippon Oil 3¾ 99	80	96	+4¾	4.48
Ono Pharm 3¾ 96	80	125	+16½	7.00
Soo Gen Surv 4½ 94	90	158⅞	+1⅞	−4.05
Sumitomo Corp 2⅞ 99	70	147⅞	+0½	−0.81
Texaco Capital 11⅞ 94	1bn	98½	−1	73.56
Texaco Capital 11⅞ 94	500	94¾	+0½	71.67
Tsumora Juntdo 5⅞ 96	30	148	+16½	2.36
Yamaichi Sec 3⅞ 95	20	155	−1½	−2.92

YEN STRAIGHTS	Issued	Price	Chg. on week	Yield
Asian Dev Bk 7⅞ 94	19	106⅞	+0⅛	6.57
Avon Products 8⅞ 91	28	98⅞	+0⅛	7.11
Denmark 6⅞ 92	20	107	+0⅛	6.64
Dow Chemical 7 94	90	101⅛	+0⅛	6.72
EDF 6⅞ 95	30	102⅞	+0⅛	6.47
Eurofima 7⅞ 94	10	103⅞	+0⅛	6.78
Eurofima 6⅞ 92	10	100⅞	+0⅛	6.48
FNMA 6⅞ 92	50	101⅛	+1	6.80
GMAC 6½ 90	25	101	−0⅛	6.22
Intel 6⅞ 92	12.5	97⅞	+0⅛	7.11
Int-Amer Dev 7⅞ 93	15	103⅛	−0⅛	7.33
ITT 6⅞ 92	20	101⅛	+0⅛	6.62
McDonald Corp 6½ 92	25	101⅛	+0⅛	6.32
New Zealand 7⅞ 90	15	102⅛	+0⅛	6.42
New Zealand 7⅞ 89	15	103⅛	+0⅛	6.40
Pacific Gas & EL 7 94	20	102⅛	+0⅛	6.62
Penney J C 6⅞ 92	20	98⅞	0	6.91
Procter 6⅞ 92	25	101⅛	+0⅛	6.28
Sallie Mae 6⅞ 92	25	100⅛	+0⅛	6.86
TRW 7 94	19	101⅛	+0⅛	6.79
Utd Technology 6⅞ 92	25	100⅛	+0⅛	6.48
World Bank 7 94	20	102⅛	+0⅛	6.66
World Bank 7⅞ 93	20	105⅛	+0⅛	6.67
World Bank 8 93	20	107	+0⅛	6.71

LUXFR STRAIGHTS	Issued	Price	Chg. on week	Yield
ASEA 9⅞ 89	600	101½	0	9.26
Eurofima 10 94	600	104⅛	+0⅛	9.77
E Coal & Steel 10⅞ 94	1bn	105⅛	0	9.57
Euro Invest Bk 10⅞ 94	1bn	106⅛	0	9.42
World Bank 10⅞ 99	1bn	102⅛	0	9.36

GUILDER STRAIGHTS	Issued	Price	Chg. on week	Yield
ABN 8 89	200	106⅛	−0⅛	5.67
ABN 7⅞ 89	150	106⅛	+0⅛	5.81
Amro Bk 7⅞ 89	150	103½	−0⅛	6.20
Amro Bk 8 89	200	104⅛	−0⅛	6.32
Bk Mees & Hope 8⅞ 89	100	106	+0⅛	6.03
Beatrice Foods 8⅞ 89	100	103½	+0⅛	7.04
C C Rabo 8 89	150	105⅞	+0⅛	6.13
Denmark 8½ 91	100	106⅛	−0⅛	6.58
Int Stand Elec 8½ 89	100	105½	+0⅛	6.43
New Zealand 8⅞ 89	100	105⅞	+0⅛	6.27

CANADIAN DOLLAR STRAIGHTS	Issued	Price	Chg. on week	Yield
Amex 12⅞ 91	80	103⅛	+0⅛	11.32
Aust Resources 11⅞ 92	50	102⅛	−0⅛	10.56
Bank of Tokyo 10⅞ 92	75	100	−0½	10.86
Bqe l'Indosuez 14 91	75	111⅛	+0⅛	11.09
Br Col Muclo 12⅞ 91	100	106⅛	+0½	10.61
Br Col Munio 13½ 91	100	107⅛	−3⅛	11.36
Br Col Telo 12⅞ 89	70	103⅛	−0⅛	11.72
Farm Cred Corp 12⅞ 90	75	106⅛	−0⅛	10.67
Kredietbank 12 92	75	103⅛	−0⅛	11.27
Long Term Cred 11⅞ 90	75	102½	−0⅛	10.93
Montreal City 12⅞ 91	50	106⅛	0	10.84
New Brunswick 12 98	75	106⅛	−0⅛	10.90
Nova Scotia 11⅞ 95	100	103⅛	+0⅛	10.97
Quebec Hydro 14 91	75	106⅛	+0⅛	12.27

ECU STRAIGHTS	Issued	Price	Chg. on week	Yield
ABN 9½ 92	100	102⅛	−0⅛	9.00
Australia & NZ 10⅞ 91	90	104⅛	−0⅛	8.68
Austria 10⅞ 93	100	107⅛	−0⅛	8.13
BFCE 9⅞ 92	100	104⅛	−0⅛	8.77
Cred National 10⅞ 94	90	106⅛	+0⅛	9.23
Cred National 11⅞ 91	90	107⅛	−0⅛	9.38
Denmark 10⅞ 91	75	105⅛	0	9.31
Ebco Int 10⅞ 89	85	103⅛	−0⅛	9.57
EEC 11 93	90	104⅛	0	10.09
EEC 11⅞ 91	50	105⅛	−0⅛	9.75
EEC 11⅞ 93	70	105½	0	10.16
Euro Coal & Steel 6 94	50	117⅛	+0⅛	9.32
Euro Invest Bk 8⅞ 96	200	100⅛	−0⅛	9.22
Euro Invest Bk 10⅞ 94	130	105⅛	−0½	9.98
Euro Invest Bk 10⅞ 89	90	100	−0⅛	8.23
Euro Invest Bk 10⅞ 94	100	106⅛	−0⅛	9.49
Euro Invest Bk 11⅞ 92	75	107⅛	−0⅛	9.46
Euro Invest Bk 11⅞ 93	50	107½	−0⅛	9.68
Euro Invest Bk 11⅞ 96	50	111⅛	−0⅛	9.42
Gen Finance 11 90	70	106⅛	−0⅛	9.14
Giro Vienna 10½ 93	50	106⅛	−0⅛	9.24
GTE Finance 10⅞ 92	60	106⅛	+0⅛	8.09
Ireland 10⅞ 95	50	103⅛	0	9.69
Italian Govt 10⅞ 92	600	105⅛	−0⅛	8.33
Italian Treas 11½ 90	60	100⅛	−1⅛	9.74
Kredietbank L 9⅞ 92	75	100½	+0⅛	9.27
Magal Finance 11⅞ 94	100	108⅛	0	8.73
Nippon Cred Bk 11 91	50	107	+0⅛	9.24
Nordic Inv 0 94	90	119	−0⅛	9.39
Post Och Kred 10⅞ 92	90	104⅛	−0⅛	9.90
Royal Bk Can 10½ 89	89	104⅛	+0⅛	8.87
SNCI 10⅞ 94	00	106⅞	0	9.62
Swedish Export 11 89	57	103	+0⅛	0.79
West LB 10⅞ 91	50	103⅛	+0⅛	9.89
World Bank 10⅞ 96	100	105⅛	−0⅛	9.25

AUSTRALIAN DOLLAR STRAIGHTS	Issued	Price	Chg. on week	Yield
Nat Aust Bk 12½ 89	40	92⅛	+0⅛	15.65
PISA 12⅞ 89	50	89½	+0⅛	15.50
State Bk NSW 12⅞ 89	40	93⅛	0	14.86
Woolworths 14⅞ 89	25	98⅛	0	14.50

STERLING STRAIGHTS	Issued	Price	Chg. on week	Yield
BAT Intnl 10⅞ 91	100	97⅛	+1⅛	11.30
Denmark 10⅞ 88	75	99⅛	+1⅛	11.18
EEC 11⅞ 94	50	100⅛	+1⅛	11.28
Europarat 11⅞ 92	50	98⅞	+1⅛	11.61
Euro Invest Bk 10⅞ 92	50	97⅞	+1⅛	11.43
Finland 11⅞ 88	00	100	+0⅛	11.76
Grand Met Fin 10⅞ 90	50	96½	+1⅛	11.50
Int-Amer Dev 11⅞ 91	50	98⅞	+1⅛	11.63
Int Stand Elec 11⅞ 96	50	98½	+0⅛	11.72
Inu In Indust 11⅞ 91	60	100	+1	11.47
Ireland 11⅞ 94	00	97⅞	+1⅛	11.91
New Zealand 10⅞ 88	100	97⅞	+1⅛	11.38
BNCF 11⅞ 94	60	98⅞	+1⅛	11.59
World Bank 10⅞ 88	100	98	+0⅛	11.34
World Bank 10⅞ 89	50	98⅛	+0⅛	11.26
World Bank 11 94	90	98⅛	+1⅛	11.24

EQUITY WARRANTS	Expiry date	Price	Chg. on week	Prem.
Bank Leu Intl	30/5/88	133	−15	9.01
Ciba-Geigy Int £	1/11/88	808	−65½	4.86
Credit Suisse	31/5/88	76½	−8¼	−33.87
Casio Computer	6/3/89			
ICI Finance	1/6/90	447½	+52½	9.74
IC Industries	15/6/88	25½	+2	1.34
Jusco	22/12/88	121	0	−46.56
Minebea Co	20/2/89	60	+4	15.39
Mitsubishi Cp	7/11/88	39	+3½	−15.44
Mitsui	10/12/87	19	−1⅛	10.82
Nissho Iwai	1/2/89	34	+0½	1.65
Norsuro	31/10/88	84	+11	−31.82
Swiss Bank Cpn	20/12/88	126¼	−7⅛	7.71
Toray Ind	9/3/87	25	+0½	−9.71
Tyo Engineering	28/2/89			

BOND WARRANTS	Expiry date	Price	Chg. on week	Ex. yield
Aegon Ins 11⅞ 91	14/2/88	80½	−0⅛	10.52
Coca Cola 11⅞ 91	28/11/88	82½	0	8.79
Commerzbk 12⅞ 91	21/11/88	83	+0½	6.98
Du Pont 13⅞ 89	25/8/88	96	+3⅛	10.61
Eksportfinans 13⅞ 89	15/9/87	96	0	6.60
Gen Elec 12⅞ 91	7/8/87	78½	+0½	6.90
Ind Bk Jpn 12⅞ 91	6/10/88	108⅞	+0⅛	9.21
Inv in Ind 10⅞ 91	1/12/88	95	+5	11.01
McDnlds 11⅞ 94	5/1/88	63	+0½	10.41
Oester Lnbk 13⅞ 96	9/8/87	97½	+0⅛	6.48
Texaco Cap 12⅞ 92	1/9/87	65	+1	8.22
Trnto Dom 12½ 91	5/4/88	101¼	−2⅛	7.25

STRAIGHT BONDS: Yield to redemption of the mid-price. Amount issued is expressed in millions of currency units except for yen bonds, where it is in billions.
FLOATING RATE NOTES: US dollars unless indicated. Margin above six-month offered rate (‡ three-month; § above mean rate) for US dollars. C.cpn=current coupon.
CONVERTIBLE BONDS: US dollars unless indicated. Prem=percentage premium of the current effective price of buying shares via the bond over the most recent share price.
Closing prices on January 31.
WARRANTS: Equity warrant prem=exercise premium over current share price. Bond warrant ex yld=exercise yield at current warrant price.
† Perpetual.

Fermenta forecasts jump in earnings

BY KEVIN DONE, NORDIC CORRESPONDENT IN STOCKHOLM

FERMENTA, the fast-growing Swedish biotechnology and pharmaceuticals group, expects to achieve profits in excess of SKr 1bn ($133m) a year once it has completed the planned takeover of Sonessons, Leo and Gambro.

Mr Refaat el-Sayed, chief executive and majority shareholder of Fermenta, said the company had decided not to consolidate Pharmacia, Sweden's second largest pharmaceuticals group, in which it is planning to purchase a substantial minority shareholding from Volvo.

Fermenta will acquire a holding of around 40 per cent of the votes and 12 to 13 per cent of the equity from Volvo. It currently has an option to purchase a further 11 to 12 per cent of the votes through Svenska Handelsbanken, but Mr el-Sayeed refused to say what would happen to this stake.

Fermenta's move to take over control of Pharmacia has aroused strong criticism from foreign investors in Pharmacia, particularly in the US and the UK, but the move has been welcomed by the Pharmacia board.

Fermenta said that it plans to retain Gambro, the Swedish manufacturer of kidney dialysis equipment, within the group and that it will establish a new business sector in medical equipment.

The Fermenta bid for Sonessons is worth around SKr 3.23bn. The company plans to consolidated the Sonessons subsidiaries Leo/Ferrosan and Gambro, but will sell off the Sonessons engineering operations.

In an attempt to dampen criticism from financial analysts that too little is known about the new Fermenta grouping, the company has presented a series of forecasts for the group in 1986.

On a 12-month basis Fermenta claims that it will have a turnover of SKr 6.2bn and profits (after financial items and minority interests) of SKr 1.2bn to SKr 1.6bn.

The forecasts are based on the planned acquisitions as well as some smaller takeovers which have not yet been announced. Pharmacia is not consolidated.

Fermenta is forecasting after tax earnings per share of SKr 18 to SKr 23.70 on the basis of 46.7m issued shares. Excluding minority interests, Fermenta would have an equity-to-debt ratio of 36 per cent.

Fermenta has grown at break-neck speed since the company was taken over by Mr el-Sayed, an Egyptian-born micro biologist in 1982.

Through a rapid series of acquisitions, Fermenta turnover has grown from SKr 86m in 1982 to a forecast level of SKr 1.37bn in 1985 and SKr 6.2bn after the current planned acquisitions. At the same time earnings after financial items have grown from SKr 4m in 1982 to a forecast SKr 300m in 1985 and in excess of SKr 1bn with the new acquisitions.

Petrofina lifts profits and dividend

By Paul Cheeseright in Brussels

PETROFINA, the Belgian oil and energy group which has made an agreed bid for Charterhouse Petroleum of the UK, has reported net income for 1985 of BFr 17bn ($348m), or 10.1 per cent more than a year before.

The group, the largest industrial concern in Belgium, is raising its dividend proportionately to BFr 330. But for the 1983 and 1984 years, Petrofina offered one-for-10 bonus share issues.

The dividend was declared, Petrofina said, "notwithstanding the current instability of our industry."

The increase in both profits and dividends follows a well-established pattern. For the last 17 years, profits have been rising steadily at an annual average of over 13 per cent.

The 1985 result was reached solely from operating income. All non-recurring income was offset by the write-off of extraordinary charges.

The rise in profits came largely from the performance of the group's refining-marketing division. Group has invested heavily in the past in conversion units for changing heavy oil fractions into light fractions. They account for 35 per cent of Petrofina's refining capacity, double the industry average.

This has permitted a concentration on high value added products.

People Express to buy PBA

BY OUR NEW YORK STAFF

PEOPLE EXPRESS, the fast growing US cut-price airline, has agreed to acquire Provincetown-Boston Airline, a commuter carrier currently operating under Chapter 11 of the US bankruptcy code.

The planned acquisition marks the third deal announced by People Express in less than three months. In November it acquired the Denver-based Frontier Airlines and recently announced an agreement to acquire Britt Airways, the nation's third largest commuter airline with hubs in Chicago and St Louis.

The acquisitions underline People Express' relatively recent strategy of building a nationwide network to compete with other major US domestic carriers.

People Express has made its name as a cut-price and low cost carrier and said it would provide funds to help Provincetown-Boston Airlines (PBA) emerge from Chapter 11.

Under the agreement PBA's creditors have provided an additional $500,000 of secured debt while People Express has agreed to provide up to $700,000 in secured debt, subject to court approval.

People Express would then acquire PBA under a court-approved plan of reorganisation on terms yet to be negotiated. People Express has also been given an option to acquire six PBA aircraft.

PBA was once the nation's largest commuter airline with major routes in the north east and Florida, but filed for protection from creditors in March last year.

In November 1984 the airline was shut down for two weeks by Federal Aviation Administration officials because of safety violations. The following month one of its aircraft crashed killing 13 people.

Growth slows at Club Med

By David Housego in Paris

CLUB MEDITERRANEE, the French-owned holiday group, registered a slowdown in profit growth last year.

Net consolidated earnings climbed by 8 per cent during 1984-85 to FFr 266.6m ($36.5m) on the basis of a 17 per cent climb in turnover to FFr 5.9bn. This compares with a 20 per cent profit growth in 1983-84.

This year's increase takes account of an exchange rate calculated on the basis of the average for the season instead of at the close of the financial year. On this basis 1983-84 net earnings have been revised downwards to FFr 246m.

Swedish insurance group falls into SKr 310m loss

BY DAVID BROWN IN STOCKHOLM

SKANDIA of Sweden, one of Europe's largest insurance companies, plunged into a loss before tax and extraordinary items of SKr 310m ($41.3m) last year compared with a profit of SKr 354m in 1984, but it will maintain its dividend and says it expects its 1986 performance to improve "considerably."

The figures do not include results for Skandia International, the international reinsurance division of which 55 per cent was recently floated for SKr 876m. These are to be released in mid-April and are expected to be on the break-even level.

Skandia's board has recommended an unchanged dividend of SKr 6 per share and has proposed a five-for-one share split.

Total premium income in the domestic non-life sector climbed by 15 per cent to SKr 3.53bn—with most of the increase coming in the commercial division.

However, the non-life business was hit by heavy claims and price competition. The consumer division lost SKr 240m, against a profit of SKr 4m last year and commercial division results tumbled from a profit of SKr 110m to a loss of SKr 150m.

Comanche Peak hits snag over red tape

By Mary Frings in Dallas

A SLIP-UP over red tape has added to problems at the North Central Texas nuclear power plant, better known as Comanche Peak, which is already five years behind schedule.

Now it has been discovered that someone forgot to renew the construction permits for the first unit of the 2,300 Mw twin reactor plant, when they expired last July.

This had led the Dallas-based Citizens Association for Sound Energy to hurl accusations of incompetence not only at Texas Utilities, which is building the $5bn plant 75 miles south-west of Dallas, but at the regional office of the Nuclear Regulatory Commission.

Work on the first unit stopped last week and 100 men were laid off, although another 300 were transferred to unit two.

Mr Jim Boyle, Public Counsel for the Texas Public Utility Commission, said the stoppage was "a very sad occurrence, because every day the plant is delayed costs $1m in interest."

Five years ago Texas Utilities took over the quality assurance programme at Comanche Peak from Brown & Root, the main contractor. In January last year Federal inspectors reported so many flaws in the plant's design, construction, management and inspection that all operational licence hearings were suspended.

Transamerica share issue

By Alexander Nicoll

TRANSAMERICA, the US group which last week revealed plans to focus on financial services and divest its other interests, is making a $175m share issue of which 20 per cent is to be sold in Europe.

Swiss Bank Corporation International is arranging the European offering of 1m shares from London, aided by other banks in each of Europe's major financial centres. Salomon Brothers and Goldman Sachs are handling the US issue of 4m shares.

NEW INTERNATIONAL BOND ISSUES

Borrowers	Amount m.	Maturity	Av. life years	Coupon %	Price	Book Runner	Offer yield %
U.S. DOLLARS							
Mitsubishi Heavy Ind. ¶‡	250	1991	6	4½	100	Nikko Secs. (Europe)	4.500
Fujitsu Ltd. ¶	200	1991	5	(4¾)	100	Nikko Secs. (Europe)	*
Banco Central (a) †‡	150	2006	20	1/16	100	Bankers Trust Int.	–
Kemira Holding ‡	85	1991	5	9¼	100¾	CSFB	9.057
State Bk Sth Australia ‡	100	1993	7	9¼	100	Deutsche Bk Cap Mkts	9.250
Forsmarks Kraftgrupp ‡	100	1991	5	8¾	100¼	Svenska Int.	8.688
Council of Europe ‡	150	1996	10	9⅜	100¼	Bankers Trust Int.	9.336
LTCB of Japan ‡	100	1996	10	9½	101⅛	LTCB Int.	9.322
Barclays Bank (c) †‡	750	–	–	¼	100	Barclays Merchant Bk	–
Italy ‡	150	1996	10	9⅛	99⅝	Bankers Trust Int.	9.184
Eurofima ‡	100	1990	10	9¼	100¼	Merrill Lynch	9.211
Deutsche Bank ‡	150	1996	10	9¼	100¼	Deutsche Bk Cap Mkts	9.211
Calfed Inc. §	125	2001	15	(6½–7)	*	CSFB	*
Fujikura Cable ¶	30	1991	6	(4¾)	100	Nomura Int.	*
Finland ‡	100	1991	5	8⅝	100½	IBJ Int.	8.498
CANADIAN DOLLARS							
AIDC ‡	100	1991	6	10	100	CIBC	10.000
Bell Canada ‡	50	1991	5	10	100¼	UBS (Secs)	9.934
AUSTRALIAN DOLLARS							
Bayerische Vereinsbk ‡	50	1990	4	14	101	Bayerische Vereinsbk	13.658
F. von Lanschot ‡	40	1989	3	14¼	100½	Orion Royal Bank	14.035
D-MARKS							
SBC Finance ¶‡	200	1996	10	2¾	100	Schweizerischer Bkverein	2.750
Pirelli ¶‡	100	1993	7	3	100	BHF-Bank	3.000
Mitsubishi Heavy Ind. §‡	250	1992	6	2¼	100	Deutsche Bank	2.263
EEC †‡	500	1992	8	(b)	100	Dresdner Bk, Deutsche Bk	–
BHW Finance ‡	100	1996	10	6⅞	100	Commerzbank	6.875
Dai-Ichi Kangyo Bk Ø‡	300	1996	10	6½	100¼	Commerzbank	6.465
SWISS FRANCS							
Gen. Occidentale ‡	125	1996	–	5¾	99¾	Soditic	5.784
Brierley Inv. §	100	1994	–	(5)	100	Lloyds Bank Int.	*
Tohoku Elec. Power	150	1994/96	–	(5⅛)	*	UBS	*
Marquest Medical	25	1994	–	(6)	(100)	Bqe Gutzwiller, K. B.	*
Hohnen Oil ¶	30	1991	–	(2⅞)	*	SBC	*
Philip Morris **‡	207	1993	–	4⅞	100	UBS	4.875
Fuqua Ind. ‡	100	1996	–	6	100¼	Soditic	5.964
ECUs							
Washington Post ‡	57¼	1996	10	8⅞	100¼	Salomon Bros.	8.836
FRENCH FRANCS							
Renault (d)‡	500	1991	5	10⅝	100	Societe Generale	10.625
LUXEMBOURG FRANCS							
Gotabanken **‡	300	1991	6	9	100	Kredietbank Int.	9.000
Wartsila Oy **‡	300	1991	5⅔	9⅛	100	BIL	9.125
Bergen Bank **‡	300	1992	8	9	100	Kredietbank Int.	9.000
GUILDERS							
IADB ‡	200	1989	5	7	99½	ABN	7.071
YEN							
Ireland ‡	20bn	1996	10	6.7	100	Daiwa Secs.	6.612
World Bank ‡	25bn	1996	10	6½	101⅜	Yamaichi Int. (Eur)	6.310
Sallie Mae Ø‡	20bn	1991	5	6½	101½	Daiwa Europe	6.143
Canada ‡	80bn	1991	6	6⅛	100¾	Nomura Int.	6.947
OKB ‡	30bn	1998	12	6½	99.45	Nomura Secs.	6.675
Norddeutsche Landesbk ‡	10bn	1993	7	6½	101½	Bank of Tokyo Int.	6.229
Shanghai Inv. & Trust ‡	25bn	1996	10	6.6	100	Nomura Secs.	6.789
Austria (e) ‡	20bn	1996	10	6	101	Nomura Int.	7.852

*Not yet priced. ‡ Final terms. ** Private placement. § Convertible. † Floating rate note. ¶ With equity warrants. § Dual currency. Ø With bond warrants. (a) 1/16 over 3m Libor. (b) Equal to 6m Libor (c) ¼ over 6m Libid. (d) Extendible to 2001 with coupon refixed every 5yrs. (e) Redemption linked to Yen/dollar exchange rate. Note: Yields are calculated on AIBD basis.

Wates City signs £56m debt rescheduling plan

BY MICHAEL CASSELL, PROPERTY CORRESPONDENT

Wates City of London Properties, which owns a major portfolio of investment properties in the Square Mile, has signed a £56m debt rescheduling agreement.

The company was floated in September 1984 and the deal confirms the group's transition in status from a secured borrower to an unsecured borrower. It will enable it to repay nearly all of its existing debt and leave substantial funds to finance the next phase of its development programme. The package is also designed substantially to reduce the company's borrowing costs.

Under the agreement, Wates has signed a £56m, unsecured, seven-year multiple option facility, making it one of only two UK property companies to use this formula. The other is MEPC, which in January announced a £200m loan package. Around one-third of the funds raised will go towards repaying existing Wates' debt, with the balance providing finance for future development.

The facility, under which the maximum interest rate payable will never exceed sterling LIBOR plus 0.3 per cent a year, involves a sterling advance tender panel of 19 banks. The panel will bid competitively for short-term sterling advances, to be made when the developer requires funds. Wates may subsequently add other options to the facility, among which is the issue of Eurocommercial Paper.

If the tender panel does not meet Wates' requirements, either in cost terms or scale of funds, the tender panel will be supported by a syndicate of five banks who have committed to fund Wates over a period of seven years. They are First Interstate Bank of California, N. M. Rothschild and Sons, Standard Chartered Bank, Allied Irish Investment Bank and Postipankki (UK). The same banks are also on the tender panel.

Wates City is engaged in a number of property developments. It has just completed its 17,500 sq ft office development at Bakers Hall, Harp Lane, City and is still considering, with partners Friends Provident, plans for the refurbishment or redevelopment of Winchester House, the 250,000 sq ft City office building jointly purchased last year for £65m.

BOARD MEETINGS

The following companies have notified dates of board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official indications are not available as to whether the dividends are interims or finals and the sub-divisions shown below are based mainly on last year's timetable.

TODAY

Interims—Adam De Brett, Textured Jersey.

Final—Bullough.

FUTURE DATES

Interims	
Datron International	Feb 6
Grosvenor Square Properties	Feb 19
Manganese Bronze	Feb 11
Finals—	
Aaronson Bros.	Feb 6
Goode Durrant and Murray	Feb 6
Newman Tonks	Feb 4
Radion	Feb 25
Somportex	Feb 28

J. & J. Dyson rises 89% to £0.3m

An 89 per cent increase in pre-tax profits has been achieved by J. & J. Dyson, Sheffield-based maker of refractory materials and articulated trailers, in the six months ended September 1985.

On turnover ahead from £19.22m to £20.75m, the group's pre- and post-tax result was up from £159,000 to £301,000, and earnings per share jumped from 1.15p to 2.19p.

The interim dividend is held at 2p, but the directors say that if the company's optimism in the future is justified, consideration will be given for an increase in the final. In 1984/85 an unchanged 2p final was paid when total profits were £727,707 (£999,331).

The economic climate in which heavy manufacturing industry has operated during the half year has not been as buoyant as the company might have expected, the directors state. However, due to the company's extensive rationalisation and increased efficiency, progress has been made in the refractories division, and there is an expectation of a further improvement in profitability.

Revenues from the mineral resources during the period amounted to £200,000, but as previously stated, the Scottish site should be operating at maximum capacity during 1986, having overcome the aftermath of the miners' strike.

M & G Tankers has now established a presence in the American market by producing four tankers for use by American petroleum distributors.

All other companies in the general division have operated profitably, the directors say, and are experiencing better trading conditions in the current half.

Haynes up midway and prepares for further expansion

Haynes Publishing Group, Somerset-based book publisher and retailer, has lifted pre-tax profits in the six months to end-November 1985, by £14,000 to £850,000.

This is a "small but useful increase" Mr John Haynes, the chairman says, bearing in mind the comparative result was exceptionally good, up from the £417,000 in the first half of 1983-84.

The directors are stepping up the interim dividend by 1p to 5p to reduce disparity. A total of 13p was paid in 1984-85 when profits reached £1.7m. The payment this time is covered twice by stated net earnings per 20p share of 10.26p (9.02p).

Turnover for the group, which specialises in car and motorcycle publications, totalled £5.05m against £4.55m. Of this the UK and exports accounted for £3.62m (£3.12m) and North American sales for an unchanged £1.43m.

Mr Haynes explains that despite a 12 per cent improvement in sales in North America the strength of the pound meant that in sterling terms sales were marginally down.

In the UK a number of non-recurring items of expenditure has meant the percentage increase in turnover is not reflected in a similar or greater percentage increase in profitability.

In the first half a further 4,500-sq-ft factory building was constructed on the main Sparkford site and 3,000 sq ft of additional editorial and sales offices are nearing completion, the chairman says. By the end of the financial year a new Bindery line costing £600,000 will have been installed.

In addition, four acres of freehold land have been purchased in Sparkford, with planning permission for light industrial use, which, although not required immediately, ensures that the company has a land bank to fall back upon as and when required. All these items are being financed from the group's positive cashflow.

In the US additional costs are being incurred due to changes being implemented to prepare foundation for further growth and expansion. In the second half more management and organisational changes will occur, Mr Haynes reports. It is intended to expand the editorial function and to double the company's warehousing capacity.

At the same time, sales managers for the east coast and the traditional book trade have been appointed, which will result in a further increase in expenditure in the short term, but it is planned that this will lead to increased sales and profitability in late 1986/87.

Trading profit for the half-year fell from £782,000 to £767,000. A similar £34,000 (£32,000) was received in rents, and £49,000 (£22,000) in interest.

Tax took £291,000 (£311,000) in the UK and £46,000 (£74,000) in North America, leaving attributable profit at £513,000 (£451,000). Dividends absorb a higher £250,000 (£200,000).

● comment

Haynes is clearly not going to report last year's near 25 per cent profits increase at this rate. At the trading profit level it managed to record a downturn and only an increase in interest receivable saved the day. In the UK, spending on land, offices, machinery and the company's 25th birthday celebrations have nibbled away at the margins and in the US the 12 per cent increase in dollar-denominated turnover has not been enough to outweigh the adverse currency translation and the cost of adding senior personnel to the payroll. With the group making such heavy weather of its expansion into the potentially lucrative North American market, the full year seems unlikely to bring more than £1.9m pre-tax, putting the shares, down 2p at 368p, on a prospective p/e ratio of 16 after a 40 per cent tax charge. With the Haynes family's majority ruling out the possibility of a bid, the rating seems to be looking a long way ahead of the fundamentals.

Sun Alliance business mixed

Sun Alliance Insurance Group has announced the complete integration of its life operations with that of Phoenix Assurance which was acquired 18 months ago, incorporating combined funds of £3.7bn.

Management structures and personnel have been co-ordinated under Mr B. A. Wright as general manager and Mr S. L. Smaller as chief actuary. The marketing and distribution networks has been integrated.

The main life and pension product ranges, both traditional and unit-linked, will be marketed under the Sun Life name. The Phoenix name will be retained for the specialist products in which it was a leader—individual term, group life and PHI. There will be rationalisation of product range during 1986 under the Sun Alliance umbrella.

The direct sales operations will come within the ambit of the former Phoenix subsidiary Property Growth Assurance.

The group reported a mixed pattern of new business in 1985 with new annual premiums slightly lower at £90.6m against £91.8m, but with single premium business advancing from £123.1m to £154.5m. The pensions market showed strong growth during the year with premiums up by more than a third.

The group has announced new reversionary bonus rates for 1986 for its main classes of business. The bonus rate applicable to the basic benefit has been reduced from £4 per cent to £3.75 per cent. However, the rate applicable to existing bonuses is lifted from £6 to £7.50 per cent.

This change will not result in any maturing contract getting lower payments compared with those made at the end of 1985. The effect will be to give the greatest increase to the longer duration policies.

Global profit 14% ahead in first half

Global Group, meat and meat products concern, reports turnover up by 59 per cent and pre-tax profits higher by 14 per cent in the six months to November 30 1985. The results were achieved despite what the directors describe as difficult trading conditions in some of its main markets.

They add that since the end of the period UK trade has been hit by adverse media publicity about meat and meat products. International trade has been affected by the continuing strength of the pound.

Turnover for this USM-quoted company rose from £11.13m to £17.65m. Pre-tax profits were £173,000 (£152,000) and with a tax charge of £80,000 (£77,000) and minorities taking £2,000 (nil) the earnings per 10p share came out at 2.3p (1.9p). The interim dividend is unchanged at 1p.

Last month the group acquired 25 per cent of Barfrestone Cottage Delicatessen for £100,000 cash. It is to buy a further 25 per cent for another £100,000 cash on or before June 2. BCD, which produces and markets frozen pies and other products to the wholesale trade and freezer centres, made pre-tax profits of £81,147 on turnover of £972,264 for the period February 1 1985 to September 20 1985.

BCD is to change its name to Barfrestone Cottage Delicatessen (Dover) and will complement the 50 per cent stake Global holds in Nash Foods, now renamed Barfrestone Cottage Delicatessen (Canterbury).

SHARE STAKES

Changes in company share stakes announced over the past week include:

United Spring & Steel Group—director B. Fenwick-Smith purchased 135,000 shares and now holds 1,635,000 shares (12.06 per cent).

Scottish Ice Rink (1928—C. L. Barnard has increased his holding to 10 per cent.

House Property Co of London—Company has been notified by St James Corporation Services that it has acquired on behalf of clients, Colespring, a total of 265,000 shares in company (26.5 per cent).

Magnet & Southerns—J. T. Duxbury, chairman, bought 100,000 ordinary.

Standard Securities — Director G. W. Leigh purchased 44,300 ordinary to be held beneficially and 50,000 ordinary to be held non-beneficially.

Juliana's Holdings — Director P. Detre sold 10,000 ordinary on January 24.

Elswick-Hopper — Sir Peter Lane acquired 150,000 ordinary at 7.5p and now holds 150,000 (0.39 per cent) and 1,875 8pc Con Cum Red Preference 1992-94 at £1 and now holds 1,875 (0.18 per cent). Prof David Farmer also acquired 1,500 8pc Con Cum Red Preferred 1992-94 shares at £1 and now holds 11,150 shares

Exco International — Director T. S. K. T. Puat acquired 150,000 ordinary shares at 189p.

Berkeley and Hay Hill—C. J. Smith, a director, has disposed of 1m ordinary (1.1 per cent). He retains a beneficial interest in 10,972,669 shares (12.06 per cent).

FINANCIAL DIARY FOR THE WEEK

The following is a record of the principal business and financial engagements during the week. The board meetings are mainly for the purpose of considering dividends and official indications are not always available whether dividends concerned are interims or finals. The sub-divisions shown below are based mainly on last year's timetable.

TODAY

COMPANY MEETINGS—
Inn Leisure, Crown Hotel, Broad Street, Worcester, 12.00

BOARD MEETINGS—
Finals:
Bullough
Interims:
De Brett (Andre)
Textured Jersey

DIVIDEND & INTEREST PAYMENTS—
APS Finance Co. NV 16¼pc Dbs. 1989 8⅛pc
Anglo American Cpn. of South Africa 6pcPfd 0.78499p
Bassett Foods 1.78p
Beecham 5.1p
City of Aberdeen Land Assn. 4pcPf. 1.4p
Cooper (Fredk) 0.55p
Grindlays Eurofinance BV 1994 $452.08
Hospital Cpn. of America 15cts.
Inn Leisure 0.42p
Kansallis-Osake-Pankki 1992 $226.04
Moorgate Inv. Tst. 4.5p
Murray Income Tst. 1.0p
NYNEX Cpn. 1.80cts.
Norton Opax 1p
Pacific Telesis 143cts.
Reed Executive 1.5p
Shell Transport and Trading 7pc2ndPf. 2.45p
TR Ind. and Gen. Tst. 5½pcDb 1982-87 2¾pc
TR Trustees Cpn. 1.6p
Tex 1.5p
Thermal Scientific 1.5p
Time Prods. 0.5p
Tinsley (Eliza) 1p
US WEST 143cts.
Vaux 7.321p
Whitecroft 2.5p. Do. 4.1pcPf. 2.05p
Wight Collins Rutherford Scott 1.25p
Witan Inv. 1.5p. 2.7pcPf. 1.35p

BOARD MEETINGS—
Finals:
Associated Energy Services
Commercial Bank of Wales
Newman Tonks
Interims:
Flextech
Gold Fields of South Africa
Howard Shuttering
LDH
Unitech

DIVIDEND & INTEREST PAYMENTS—
Anchor Intnl. Fund $0.0418
Cons. Co. Bultfontein Mine 1.17326p
De Beers Cons. Mines 40pcPf. (Reg.) 28.07265p. 40pcPf. (Br.) 28.07265p. 5pc2ndPf. 1.04290p
Griqualand West Diamond Mining 5.34485p 5.34485p
Royal Bank Scotland 2005 £148.08
Samuel (H.) 1p. Do. A Non-V 1p.

WEDNESDAY FEBRUARY 5

COMPANY MEETINGS—
Tate and Lyle, London Marriott Hotel, Duke Street, Grosvenor Square, W., 11.30
Tunstall Telecom, Whitley Lodge, Whitley Bridge, Yorkshire, 11.00

BOARD MEETINGS—
Interims:
Datron International

DIVIDEND & INTEREST PAYMENTS—
American Medical Intnl. 18cts.
Gold Fields of South Africa Cnv Red Pf 145cts
Marsh and McLennan 67.5cts.
Steinberg 1.25p

THURSDAY FEBRUARY 6

COMPANY MEETINGS—
AE, Savoy Hotel, Strand, WC, 12.00
Akroyd and Smithers, Austin Friars House, 2-6 Austin Friars, EC, 12.30
Burns-Anderson, St James House, Charlotte Street, Manchester, 12.00
Greenall Whitley, Belfry Hotel, Wishaw, Warwickshire, 12.00

BOARD MEETINGS—
Finals:
Aaronson Bros
Ford (Martin)
Goode Durrant and Murray
Interims:
Aerospace Engineering
Ransom (William)

DIVIDEND & INTEREST PAYMENTS—
Bank of Tokyo (Curacao) 1991 $221.01
British Build. and Eng. Appliances 0.33p
British Land 1p
Continental and Industrial Tst. 7p
Ferranti 0.55p
Hapoalim Intnl. 1988 $447.22
Imperial Chemical Inds. 10¼pcLn. 1991-1996 5⅛pc
International Distillers and Vintners 8½pc Ln. 1987-82 4¼pc
Rank Precision Inds. 7¼pcDb. 1986-91 3⅝pc
Syltone 3.6p
Whitbread 7¼pcDb. 1989-94 3⅝pc

FRIDAY FEBRUARY 7

COMPANY MEETINGS—
Eldridge Pope, Dorchester Brewery, Dorchester, Dorset, 12.15
Plaxtons (G.R.) Royal Hotel, St. Nicholas Street, Scarborough, 2.30
St. Ives, Great Eastern Hotel, Liverpool Street, E.C., 3.00
Telecomputing, 244, Barn's Road, Oxford, 11.45
Wardle Storeys Brantham Works Brantham 8.30
Wheway Watson Birmingham Chamber of Industry & Commerce, 75, Harborne Road, Birmingham, 11.00

BOARD MEETINGS—
Finals:
Meggitt
PLM
Questel
Throgmorton Tst

DIVIDEND & INTEREST PAYMENTS—
Akroyd and Smithers 13.5p. Do. Letters of Ack. to Mercury Int.Gp. 13.5p. Do. Letters of Ack. to Mercury Int. Gp. Pf. 13/5p
Bass 11p
Brengreen 0.75p
Bromsgrove Inds. 0.4p
Burroughs Cpn. 65cts.
Burns-Anderson 1.45p
Eldridge Pope A 3.5p
Electric and Gen. Invt. 1.85p
Gibbon Lyons 1.2p
Greenall Whitley Ltd. Voting 2.8535p
Hanson Tst. 2.85p
Haslemere Ests 2.53p
London Merchant Secs. 0.75p
Middle Witwatersrand (Western Areas) 15.87121p
Prontaprint 1p
Rexmore 0.4p
Southern Rhodesia 4½pc 1987-92 2¼pc. Do 4½pc 1987-92 (Unassented) 2¼pc
Tate and Lyle 14.5p
Zandpan Gold Mining 2.154256p

SATURDAY FEBRUARY 8

DIVIDEND & INTEREST PAYMENTS—
Reed Intnl. 7½pcDb. 1990-95 3.72945pc. Do. 10pcLn. 2004-09 5pc
Somic 0.5p

SUNDAY FEBRUARY 9

DIVIDEND & INTEREST PAYMENTS—
Lloyds Bank Primary Cap. $429.72

FLAG INVESTMENT, a subsidiary of Cavenham Property Holdings, has turned in a pre- and post-tax profit of £609,593, against £557,634, for the six months to end-September 1985.

WILLOUGHBY'S Consolidated, which has interests in ranching and land owning, has suffered a fall in full year taxable profits from £642,000 to £507,000 on turnover down from £1.66m to £1.17m. The single dividend for the year to end-September 1985 has been cut by 1p to 4p. Earnings per share were 16.2p (12.6p), reflecting lower tax of £200,000 against £391,000.

F.T. Share Information

The following securities have been added to the Share Information Services:

Abbott Mead Vickers (Section: Paper, Printing & Advertising)
Ashley (Laura) Holdings (Drapery & Stores)
Bootham Engineers (Engineering)
Cranswick Mill Group (Food, Groceries)
Lexicon Inc (Electricals)
Norank Systems (Engineering)

LADBROKE INDEX
1,158-1,162 (+6)
Based on FT Index
Tel: 01-427 4411

Over-the-Counter Market

Capitalisatn. £000's	Company	Price	Change on week	Gross div.(p)	Yield %	P/E Actual	P/E Fully taxed
4,161	Ass. Brit. Ind. Ord.	122	+4	7.3	8.0	7.5	7.0
—	Ass. Brit. Ind. CULS	127	+4	10.0	7.9	—	—
4,052	Airsprung Group	70	—	6.4	9.1	11.7	15.2
900	Armitage and Rhodes	36	+1	4.3	11.6	4.4	8.4
53,634	Bardon Hill	167	+2	4.0	2.4	21.1	22.0
3,082	Bray Technologies	56	—	8.9	7.0	8.6	7.9
476	CCL Ordinary	136	—	12.0	8.8	3.3	3.2
1,213	CCL 11pc Conv. Pf.	97	—	15.7	16.2	—	—
7,499	Carborundum Ord.	125	+9	4.9	3.9	6.2	9.7
637	Carborundum 7.5pc Pf.	91	—	10.7	11.6	—	—
4,461	Deborah Services	67	—	7.0	12.3	5.6	7.6
3,034	Frederick Parker	21	—	—	—	—	—
1,698	George Blair	92	+1	—	—	3.6	6.6
2,699	Ind. Precision Castings	64	+4	3.0	4.7	16.6	14.1
13,065	Isis Group	164	−4	15.0	9.1	12.6	16.6
6,197	Jackson Group	116	—	5.5	4.8	6.0	6.0
43,995	James Burrough	315	+15	15.0	4.0	8.9	9.9
3,317	James Burrough 9pcPf.	95	—	12.9	13.6	—	—
7,086	John Howard and Co.	68	−2	6.0	7.4	8.4	8.5
3,240	Linguaphone Ord.	180s	—	—	—	6.6	8.6
—	Linguaphone 10.5pc Pf.	90s	—	15.0	16.7	—	—
25,561	Minihouse Holding NV	812	+27	6.9	0.8	35.6	33.7
684	Robert Jenkins	68	−2	—	—	6.6	18.4
1,200	Scruttons "A"	30	—	—	—	—	7.7
1,635	Torday and Carlisle	67	−1	5.0	7.6	3.4	8.1
1,473	Travlon Holdings	325	—	4.3	1.3	16.6	15.2
6,280	Unilock Holdings	40	—	2.1	5.3	10.6	10.8
16,921	Walter Alexander	132	—	6.6	8.5	7.6	9.1
4,668	W. S. Yeates	200	—	17.4	6.7	5.7	9.8

s=Suspended.

FINANCIAL TIMES STOCK INDICES

	Jan. 31	Jan. 30	Jan. 29	Jan. 28	Jan. 27	Jan. 24	1985/86 High	1985/86 Low	Since Compilation High	Since Compilation Low
Government Secs.	81.34	81.26	81.11	81.15	80.81	80.74	84.57	78.02	127.4	49.18
Fixed Interest	87.94	87.18	87.14	87.15	86.70	86.78	90.38	82.17	150.4	50.53
Ordinary	1151.0	1156.4	1160.0	1155.4	1138.4	1129.2	1151.0	911.0	1151.0	49.4
Gold Mines	341.3	342.3	337.2	347.7	287.0	287.8	536.2	277.0	734.7	43.5
FT-Act All-Share	696.41	692.40	688.48	686.40	679.41	673.32	702.06	581.88	702.06	61.92
FT-SE 100	1448.8	1452.1	1441.0	1426.3	1408.0	1398.0	1455.5	1201.0	1455.5	986.9

RECENT ISSUES

EQUITIES

Issue price	Amount paid up	Latest Renunc. date	1985/6 High	1985/6 Low	Stock	Closing price	+ or −	Net Div.	Times covered	Gross Yield	P.E. Ratio
§160	F.P.	—	170	166	✠Brookmount	167	−2	bg3.5	4.4	3.0	10.5
567	500	7/3	510	285	Cable & Wireless 50p	306	+8	F9.5	2.9	2.5	18.8
§63	F.P.	23/1	70	64	✠ChanceryBecurities	67	+1	bg2.2	2.5	4.7	10.6
§86	F.P.	10/1	88	85	✠Chart. Foulks Lynch	88	......	bg4.0	1.9	6.9	10.4
120	F.P.	24/1	130	118	Chetwynd Streets 5p	128	......	b2.11	8.5	2.4	17.5
§56	F.P.	31/1	65	59½	✠Granyte Surface 10p	60	......	b2.1	2.6	5.0	10.2
—	F.P.	—	175	100	Intl. Inv. Tst. J'rsy wts	163	......				
120	F.P.	10/1	125	116	✠Jacques Vert 10p	116	+1	bg3.5	1.2	6.7	11.1
16	F.P.	—	190	115	Klearfold Inc. $0.01	180	+5	bQ4.7c	3.0	2.5	12.8
108	F.P.	—	198	112	Macro 4 5p	196	+4	bg1.0	6.5	1.1	18.2
‡127	F.P.	—	134	125	✠Microsystems 10p	126	+1	bg1.75	4.6	2.0	15.2
*‡330	F.P.	—	348	335	Really Useful Grp. 5p	346	+5	b11.25	2.2	4.7	14.2
100	F.P.	9/1	112	106	SAC Intnl. 10p	118	......	b1.5	3.6	1.8	20.4
§101	F.P.	14/2	107	87	✠Sigmex Intl.	87	......	no5.3	10.5	0.9	8.1
‡ ‡	F.P.	—	315	277	Storehouse 10p	307	......	u6.7	9.8	2.7	18.1
§90	F.P.	—	103	87	✠WYorks.Ind.Hos.50p	70	......	b4.0	1.6	8.2	9.5
140	F.P.	—	144	140	✠Wickes 40p	141	+1	bg2.0	4.7	2.0	14.9

FIXED INTEREST STOCKS

Issue price £	Amount paid up	Latest Renunc. date	1985/6 High	1985/6 Low	Stock	Closing price	+ or −
27.203	25	4/4	24⅛	20¼	Allied Lon.Props.10⅞%1stMort.Deb.2025	21⅛	+⅛
§99.745	£25	11/4	25¼	23⅛	First Scot. Am. 11⅛% Deb. 2016	25¼	+¼
£12*	F.P.	—	112½p	87p	Intl. Inv. Tst. Jersey 13% Cum. Red. Pf.	95p	
§	Nil	—	8pm	7½pm	Lon.Shop Prop.2¼%Cnv.Uns.Ln.'99/04	8pm	+¼
100	£10	30/5	10⅛	10	Mid Sussex Wtr.8¼% Red. Pref. 1995	10⅛	......
—	F.P.	—	99⅞	98⅛	Nationwide Bldg. Soc. 12% 12/1/87	99¼	+⅛
§99.513	£40	26/2	40⅛	36	Rosehaugh Greycoat 11%1st Mt Db 2014	39⅞	+⅛
§99.708	£40	28/2	40¼	38¼	T. T. Finance 11⅛% Gtd. Deb. 2018	38⅛	......

RIGHTS OFFERS

Issue price	Amount paid up	Latest Renunc. date	1985/6 High	1985/6 Low	Stock	Closing price	+ or −
82	Nil	5/3	18pm	7pm	✠Cannon St. Invs. 20p	7pm	−1
100	Nil	7/3	93pm	13pm	Chemring Cnv. Pfd. Ord. 5p	17pm	......
750	Nil	—	80pm	58pm	CALA 50p	58pm	−5
235	Nil	—	83pm	45pm	Cray Electronics 10p	63pm	+2
R8.50	Nil	7/3	140pm	100pm	East Rand Prop	130pm	−5
32	F.P.	21/2	56	49	Goal Petroleum 5p	54	......
240	F.P.	21/2	610	267	Hogg Robinson	310	......
18	F.P.	19/2	29	17	✠Imtec 10p	28	−1
365	F.P.	7/3	465	400	Peel Hldgs.	465	+5
16	F.P.	7/3	18½	17½	Stormgard 10p	18	......
200	Nil	27/2	26pm	24pm	Telfos Unitd†	24pm	......
70	F.P.	17/3	84	79	Triplex	85	......
52	F.P.	25/2	116	80	Usigroup 15p	114	−4

Renunciation date usually last day for dealing free of stamp duty. b Figures based on prospectus estimates. g Assumed dividend and yield. F Forecast dividend cover on earnings updated by latest interim statement. H Dividend and Yield based on prospectus or other official estimates for 1986. c Indicated dividends: cover relates to previous dividend: p/e ratio based on latest annual earnings. s Forecast otherwise indicated. ¶ Issued by tender. ‖ Offered holders of ordinary shares as a "rights." ** Issued by way of capitalisation. § Placing price. §§ Reintroduced. ¶¶ Issued in connection with reorganisation merger or takeover. ■ Allotment price. ‡‡ Dealt in under Rule 535 (3). ♥ Dealt in under Rule 535 (4) (a). * Units comprising 12 preference shares and one warrant, at £12 per unit. †† Units comprising two ordinary, one preference and one warrant.

PENDING DIVIDENDS

Dates when some of the more important company dividend statements may be expected in the next few weeks are given in the following table. The dates shown are those of last year's announcements except where the forthcoming board meetings (indicated thus*) have been officially notified. Dividends to be declared will not necessarily be at the amounts in the column headed "Announcement last year."

	Date	Announcement last year
Anglo American Gold	Mar 7	Final 550c
BSR	Mar 6	Final 1.295
BTR	Mar 6	Final 7.25
*Barclays Bk	Mar 9	Final 13.5
Berisford (S. and W.)	Jan 17	Final 7.0
Birmid Qualcast	Feb 14	Final 2.59
British Petroleum	Mar 7	Final 20.0
Cadbury Schweppes	Mar 7	Final 4.3
Commercial Union	Mar 7	Final 9.95
Cons Gold	Mar 5	Interim 8.5
Cons Plants	Mar 7	Interim 2 sen
Dalgety	Feb 11	Interim 11.0
Fisons	Feb 26	Final 2.7
General Accident	Mar 6	Final 12.0
General Mining	Mar 7	Final 135c
*Gold Flds SA	Feb 4	Interim 40c
*ICI	Feb 27	Interim 18.0
Lex Service	Mar 8	Final 6.5
*Lloyds Bank	Feb 28	Final 17.0
McAlpine (A.)	Feb 25	Final 7.6
Marley	Feb 26	Final 2.35
Midland Bk	Mar 6	Final 14.5
*NatWest	Mar 4	Final 16.34
Notts Manufg.	Feb 11	Final 5.1
*Peachey Property	Feb 18	Interim 3.0
Philips Lamps	Mar 7	Final Fl 1.40
Provident Financial	Mar 5	Final 7.0
Ransomes Sims and Jefferies	Mar 4	Final 14.0
*Reuters	Feb 12	Final 1.5
*Royal Insce	Feb 27	Final 16.0
Saga Holidays	Feb 28	Final 2.7
STC	Feb 27	Final 5.76
Securicor	Feb 13	Final 1.1
Sime Darby	Mar 9	Interim 4 sen
Unilever	Mar 6	Final 24.03
Vantona Viyella	Feb 26	Final 6.0
Vickers	Feb 25	Final 6.0
Wagon Finance	Feb 14	Final 2.5

* Board meeting intimated. † Rights issue since made. ‡ Tax free. § Scrip issue since made. ¶ Forecast.

Johnnie Walker has been gaining new ground in recent years.

It is the world's best selling Scotch Whisky.

Things are very much on the move here at Guinness too.

Last year UK sales of draught Guinness showed a significant increase. A considerable achievement in a static market.

And our group's beer exports reached an all time high. (In 1984 we accounted for almost one third of the beer exported from the UK.)

We are confident that our merger with Distillers will be an extremely healthy one. And not just for our shareholders.

Britain as a whole, and Scotland in particular, have good reason to welcome the move. Scotch Whisky is one of this country's leading exports. And as such it employs over 16,000 people.

Yet Scotch Whisky is under attack from Japanese Whisky. From American Whiskey. And from Canadian Whisky.

It is strong foreign competition. And Britain must marshal its forces if it is to put up a fight.

Our merger with Distillers would bring together two of the most prestigious drinks companies in Great Britain.

It would create an arsenal of more than a dozen world famous drinks brands.

It would marry Distillers' expertise in spirits production and marketing, with our renowned flair for advertising and brand development.

And it would give Britain a representative amongst the "big boys" of the international drinks business.

The Guinness Distillers alliance deserves your support.

It is not only good news for J. Walker Esq.
It is good news for John Bull.

GUINNESS PLC

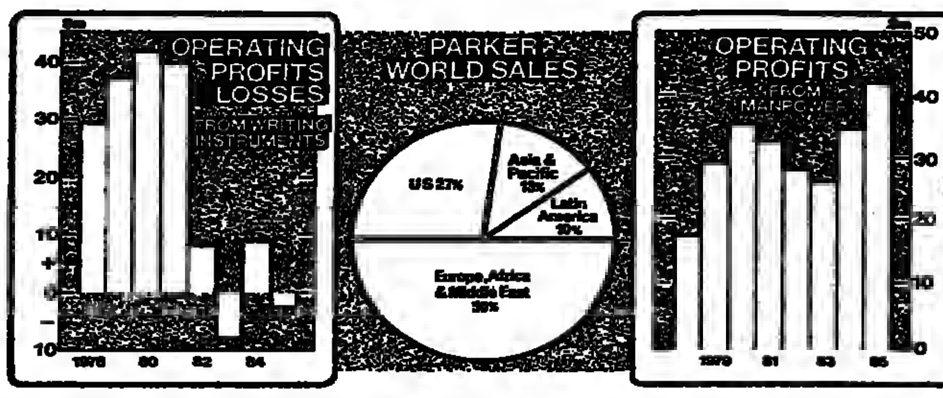
Guinness and Distillers. A stroke of genius.

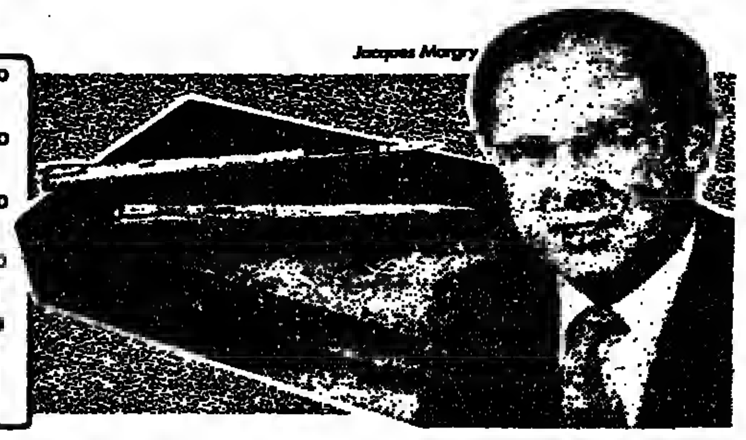
WITH GUINNESS HE SHOULD MAKE EVEN GREATER STRIDES.

This advertisement is published by Morgan Grenfell & Co Limited and The British Linen Bank Limited on behalf of Guinness PLC. The Directors of Guinness PLC are the persons responsible for the information contained in this advertisement. To the best of their knowledge and belief (having taken all reasonable care to ensure that such is the case) the information contained in this advertisement is in accordance with the facts. The Directors of Guinness PLC accept responsibility accordingly.
SOURCES: Impact International. H. M. Customs and Excise. Scotch Whisky Association. Guinness Annual Report 1985. Guinness Sales Records.

THE MANAGEMENT PAGE

EDITED BY CHRISTOPHER LORENZ





Jacques Margry

Parker tests up-market potential

Christopher Parkes on plans for the pen company following the management buy-out from its US parent

JACQUES MARGRY had a strong claim to first refusal when the US owners of Parker Pen decided to sell up and quit the pen business last July. While the Wisconsin-based parent had stumbled from crisis to crisis, he had resolutely sustained the British and European operation's success record from his base at Newhaven, Sussex.

But Dunhill and Gillette—powerful players at the top and bottom ends of the market—were showing a strong interest in the world's leading quality writing instrument maker. Pilot of Japan was also believed to be prowling. Margry had to move nimbly to set up his planned management buy-out.

Not even sure whether he could raise the $100m he would need, he first hand-picked his team of prospective colleagues from the group's management around the world.

"I wrote and asked them if they were prepared to mortgage themselves up to the hilt and work 12 or 14 hours e day.

"If you have the best team in town it greatly increases your chances of winning whatever game you play," he reflected.

With the team in training, Margry's advisers on buy-out strategy, Cockman, Copeman, pinpointed Schroder Ventures as leaders of the financing operation which was ultimately to involve Bankers Trust, Chemical Venture Capital, Electra Investment Trust and others in taking an equity stake.

The deal was signed last Friday, leaving the former US management to run its Manpower temporary help business, and bringing Parker Pen to its new base only a few miles down the coast from Dover, the ancestral home of the Parker family.

Margry, aiming to restore the far-flung group's fortunes, is taking a low profile approach. He says his ultimate aim—"almost a necessity"—is a Stock Exchange listing, but that demands e deal of concentration on the job in hand. "We need to establish a track record rather than simply make claims."

The basic building blocks appear to be in place. In the past five years the company:

- Has invested $20m in automated manufacturing facilities. About half the total was spent at Newhaven, with the rest distributed around other main plants at Janesville, Wisconsin, the works near Paris and assembly plants in South and Central America. More than 10 other plants have been closed.
- The product range has been reduced from more than 500 to 100.
- The workforce has been cut from 6,765 to around 2,800. Under the sales agreement Margry has announced a further 130 redundancies in the US, bringing the American workforce down to about 440—half the level of a year ago. And 20 jobs are to go in West Germany.
- Now the company has been freed from the burdens of the expansive and costly corporate administration and its grand offices in the US. *Most* important, however, it has been liberated from living under the shadow of the dollar.

"We do only 27 per cent of our business in the US. The result has been that the company results were more and more exposed to currency translations," explains Margry. Good results in foreign currencies were being diluted into losses on conversion to dollars.

Even so, Parker is still hobbled with the results of five years of changes of management and strategy and increasing losses from the US business which have left the company with only e 3 per cent share of the total US writing instrument market and about 17 per cent of the trade in quality pens costing $3 or more.

Margry estimates that A. T. Cross, the main competitor in America, has 11 per cent of the overall market and some 50 per cent of the crucial $3-plus trade—an exact parallel with Parker's strong position in the British market.

He is in no doubt that Cross's success stems from its stubborn adherence to a limited range of high-priced product and admirable resistance to the apparent ettractions of the battlefield et the bottom end of the market.

Parker's success in Europe can be ettributed to its quality image—in the Cross mould—and its failures in the US partly to its attempts to go down market and the consequent neglect of its traditional strengths. Managers of the American business were obsessed by size. They saw that 60 per cent of the US pen trade was in pens costing less than $3 and became preoccupied with winning a share.

Parker's expertise was in quality production, Margry says, and the management underestimated the difficulties of adapting its techniques and style to produce and market low-price writing instruments. "The trials cost a lot of time, money and effort," he says, determined to leave the disposable pen business to the others and re-establish the Parker name where it belongs alongside Cross.

The turmoil which has led to the management buy-out began et the turn of the decade, when Parker was battling in every sector of the market—and losing on most fronts. The chief executive was fired and George Parker, grandson of the founder, took control.

In January 1982, James Peterson, a marketing man from R. J. Reynolds, the US tobacco company, took over from Parker with the declared aim of making Parker Pen "e highly competitive market-driven organisation."

He started the process of centralisation and rationalisation, hecking through the ranks of the 40-odd advertising agencies which serviced the sprawling group, thinning the product range and shutting factories.

Then he cut prices in a bid to regain market share and imposed e global marketing plan at emulating the international success of products like Marlboro cigarettes. By 1984 the policy appeared to be working. Company research showed Parker had e dominant share in six of the 10 biggest markets in the world.

But the recovery was a mirage. Prices were too low and earnings fell stubbornly short of Peterson's target of e 15 per cent a year growth rate. The Parker family went heedhunting again. They turned to Mitchell Fromstein who had joined the group after it acquired his Manpower temporary help business.

He quickly unravelled many of his predecessor's policies, halted production of throwaway pens and returned the company to its roots in the quality business.

"The initial turnaround steps have been taken. The company is now producing a profit and what is required is for a tight management team which has been running the successful side of the company to put some of their own assets at risk and take an entrepreneurial approach." Fromstein says.

As part of the deal, Margry and his team have undertaken to do all they can to keep the US production business going. Peter Kibble, formerly vice president for Asia and the Pacific region, has been assigned temporarily to take control in America. Kibble, who joined the company from Sheaffer of the US in 1979, was instrumental in creating the Targa line, Sheaffer's most successful range.

He will, however, take his lead from the Newhaven board. Margry has firm ideas on his global strategy. First, Parker will make and sell only quality writing instruments. The main board will set prices and control packaging, product range and design. All other functions will be decentralised.

"World managers will decide whether to operate defensively or attack eccording to their local circumstances," says Margry. Each market in Europe is different, and there is no single competitor with a trans-European grasp. In France, Parker faces Waterman, in West Germany it is Mont Blanc, owned by Dunhill, and the closest competition in the British market is provided by Sheaffer.

Margry has firm ideas on product strategy, and turns his face firmly against innovation for its own sake. The company's speciality since its earliest days has been refinement. Founder George Parker based his business on "building a better pen." His first success was the Lucky Curve leak-free ink feed.

In the 1920s the company sold millions of Duofold pens on the merits of durability. A stylish hooded nib was the only apparent advantage of the renowned Parker 51.

More recently, the company has further demonstrated the benefits of building e better pen and still insists that being first is not necessarily essential in the writing instrument market.

Parker was the last major company to produce a ballpoint pen, coming in 11 years after Bic had ironed out most of the early problems. It held up its move into roller balls — a Japanese invention — until 1983. By then it had worked for five years and spent $3m on research and development.

Within e year the Parker Roller Ball was brand leader in the UK market, sharing the top rankings already earned by the company's refillable ballpoints, mid-price and top-range fountain pens and propelling pencils.

The refinement process continues in both products and marketing. Pastel coloured barrels have recently been introduced in the lower-priced Vector range. The more costly ranges will be extended later this year with new models and finishes as Margry probes for new niches in the market.

"In the past the company used a shotgun approach to marketing, then the rifle. Now we are using the laser," he says.

There is a strong market for "designer" pens. Parker has its own premium—even solid gold—models competing with the Dunhills, Cartiers and Du Ponts, although Margry clearly feels ventures in this area can be overdone. "We have counted 80 recognisable designer products in Italy."

The cachet of the fountain pen is still strong in Europe, particularly France. But in the US, where this trade is worth almost $600m a year, Parker's share eccounts for only 13 per cent of its total business.

Health considerations are ruling out alcohol, cigars, cigarettes end lighters from this sector. Givers have to consider the rising force of women executives which rules out traditionally male-biased presents. A pen offers no health hazards, no sexist offence. Margry is focusing his laser.

IT IS A little too soon to be certain, but Jacques Margry's early investigations suggest that sales of Parker products in the UK picked up by about 7 per cent last Christmas.

This seems to add extra weight to the claims of market researchers that consumers are once again moving up-market, following the end of the recession and the renaissance in 1983 of popular interest in writing and ownership of traditional writing instruments.

Estimates by Market Assessment, the London research company, give some indication of what this may mean to Parker.

The company suggests that while in volume terms, sales of quality pens account for perhaps 0.1 per cent of the total UK writing instrument market, this trade accounts for some 18 per cent of the total by value.

Broken down further, Market Assessment's figures indicate that the quality trade accounts for 28 per cent by value of the total retail market for fountain pens, 15 per cent for refillable ballpoints, 12 per cent for rollerballs and 15 per cent for mechanical pencils.

The natural consequence of the revival in the top end of the market has been greater interest among all manufacturers. Imports of fountain pens in 1984, for example, were worth abont £5.7m, compared with £1.5m in 1981.

A. T. Cross, Waterman and Elysee are competing strongly in the valuable sector for pens costing between £20 and £100, where Parker still holds sway with Sheaffer in second place.

***Non-Food Markets*, September 1985, available from Market Assessment Publications, 2, Duncan Terrace, London N1 8BZ. Annual subscription £290.**

Business courses

Swap financing, Brussels, March 10-12. Fee: non-members BFr 64,000; members BFr 56,000. Details from Management Centre Europe, rue Caroly 15, B-1040 Brussels. Tel: 32/2/516.19.11 Telex: 21.9.17.

Statistical information: sources for business planning and marketing, Coventry, April 25. Fee: £85 + VAT. Details from Arden House, Conference Centre, University of Warwick, Coventry CV4 7AL. Tel: 0203 523051/523251. Telex: 31406.

Principles and practice of marketing, Bradford. April 6-12. Fee: £750. Details from Mrs Dorothy Dufaux, University of Bradford Management Centre, Post Experience Programme, Heaton Mount, Keighley Road, Bradford, West Yorkshire. Tel: 0274 42299 ext 284.

The accountant in management, Berkhamsted. March 10-14. Fee: £865. Details from Ashridge Management College, Berkhamsted, Hertfordshire HP4 1NS. Tel: 044284 3491 or 2311. Telex: 826434 ASHCOL G.

Interpersonal skills for general managers, London. May 11-16. Fee: £1,050. Details from Rosemary Lee, Registrar—Interpersonal Skills, London Business School, Sussex Place, Regent's Park, London NW1 4SA.

Improving purchasing performance, St Helens, March 17-19. Fee: £220 plus residence. Details from Mrs M. Bellard, The Administrative Officer, School of Management Studies, Water Street, St Helens, Merseyside WA10 1PZ. Tel: 0744 33766.

Continuity and succession planning: developing tomorrow's leaders, Brussels. April 1-4. Fee: non-members BFr 78,000; members (AMA/I) BFr 70,000. Details from Management Centre Europe, rue Caroly 15, B-1040 Brussels. Tel: 3212/516.19.11. Telex: 21.917.

The senior executive programme, Bromley. May 11-23. Fee: £1,900. Details from the course secretary, Sundridge Park Management Centre, Bromley, Kent BR1 3TP. Tel: 01-460 8585/8987.

Buying in technology for business growth. London. March 20. Fee: ESC members £147.20; non-members £172.50. Details from European Study Conferences, Kirby House, 31 High Street East, Uppingham, Rutland, Leicestershire LE15 9PY. Tel: 0572 822711. Telex: 341352 EURCON G.

APPOINTMENTS

Sir David Nicolson to head VSEL

Sir David Nicolson, former chairman of BTR, has been named non-executive chairman of VSEL CONSORTIUM, the poblic company formed to mount an employee-led bid for the Vickers Shipbuilding yard at Barrow-on-Furness, and the Cammell Laird yard at Birkenhead, which are due to be privatised by the end of March. Sir David, who served in the Royal Corps of Naval Constructors during World War II and subsequently joined Vickers Armstrong's Naval Yard on the Tyne, was the first chairman of British Airways and was responsible for the merger of BOAC and BEA. For the past ten years he has been a non-executive director of Todd Shipyards Corporation of the US and is also a non-executive director of Northern Telecom (of which he is chairman), BTR, GKN and Ciba-Geigy (UK).

Sir David Nicolson, chairman of VSEL Consortium

★

Mr Malcolm Gudis has been appointed chief operating officer for the international operations of ELECTRONIC DATA SYSTEMS, based in London. He has direct management responsibility for the daily operations of EDS' activities outside North America. Mr Gudis was previously group executive for EDS' financial and commercial group in North America.

★

Mr Robin B. H. Vetch has been appointed group managing director of the AMALGAMATED MINING & TRADING GROUP.

★

Mr J. Michael Taylor has been appointed financial director of HICKSON & WELCH. He joins from Worley, where he was also financial director. Mr John M. Mackman has been appointed a director of James Robertson & Co. He will remain engineering director of Hickson & Welch. Both are Hickson International companies.

★

Mr Leslie Warman, a senior executive in the corporate finance division of LLOYDS MERCHANT BANK, has been appointed a director. He is also a non-executive director of Shorrock, an electronics security group.

★

Mr Patrick Thomas, administrative and financial director of Pernod-Ricard, has been appointed managing director of the HOUSE OF CAMPBELL, Scottish subsidiary of the group.

★

Mr Michael Rubie has become a partner of BOSWELL BIGMORE.

★

CLARKSON PUCKLE GROUP has appointed Mr Chris Morren and Mr Bill Gleyn as directors of Clarkson Puckle Home.

★

Mr Andrew Noble, chairman of The British Retailers Association and previously joint managing director of Debenhams with responsibility for store operations and services, has been appointed a non-executive director of SPECIALEYES, a London-based retail chain of dispensing opticians.

★

Mr Michael Hodge has been appointed a director of STYLO and managing director of Stylo Barratt Properties.

★

HENRY ANSBACHER HOLDINGS has appointed Mr Alfred Singer as a director. In addition he becomes chairman of the finance and audit committee of the board. He is chairman of Cannon Assurance, and on the board of 11 companies.

★

Mr Roland Bellinger has been appointed a director of Icore International, a subsidiary of SMITHS INDUSTRIES. Mr Bruce Henderson has been appointed sales director of Fliteline, another subsidiary.

★

Mr G. P. P. Hart has been appointed company secretary to the NATIONAL FREIGHT CONSORTIUM. He succeeds Mr A. J. Staley, who is leaving. Mr Hart joins from The Bath and Portland Group where he was an executive director.

★

Mr Ron Dudley has been promoted to divisional managing director of the hireplant crusher hire division of Leicester-based FREDERICK PARKER GROUP.

★

Mr John Redwood has been appointed to the board of N. M. ROTHSCHILD & SONS.

★

Mr J. M. G. Andrews and Mr R. E. Treacher have been elected to the board of GREYHOUND GUARANTY, merchant banking subsidiary of The Greyhound European Financial Group, as non-executive directors. Mr Andrews is a member of Lloyd's of London Council, and Mr Treacher is financial director of the Hunting Group.

★

Mr Brian J. Swindells has been appointed managing director of IMI Yorkshire Copper Tube, Merseyside, a subsidiary of IMI. He succeeds Mr Peter Fisken, who has been appointed an executive director of IMI. Mr Swindells was managing director of IMI Bailey Birkett, where he is succeeded by Mr Brian M. Williams, who was sales and marketing director.

★

Sir Gerard Vaughan, the former Minister for Health and MP for Reading East, has become chairman of PRIVATE MEDICAL CENTRES.

★

Mr David Wood has been appointed group managiog director of SODASTREAM, Peterborough, which was acquired by Cadbury Schweppes last June. As well as beading the Sodastream operations in the UK and the rest of the world, Mr Wood will assume control of the Cadbury-Schweppes in-home drinks dispensing operation in the US.

★

APRICOT COMPUTERS has appointed Mr Simon Hunt as group financial director. He joined in January last year as a member of the main board. He was appointed an executive director responsible for corporate planning. In March he was named president of the group's US distributioo associate, Apricot Inc. He will continue his responsibilities in both markets.

★

Mr Eric Turner, a director, has been appointed managing director of P & O FERRIES Scottish services. Mr David Sutherland, administration manager, becomes director, administration and personnel; and Mr Michael Brown, finance manager, is made financial controller and company secretary.

★

The PITTARD GROUP bas appointed Mr Iain Clarke to the group board as a non-executive director. His current appointments include: consultant to Gold Fields ARC; director, The Bath and Portland Group, Marples International; and Meditech Engineering.

★

Mr Brian Holmes has been appointed as a consultant to M. W. MARSHALL STERLING on building society business. He was formerly a general manager of the bradford & Bingley Building Society.

★

The boards of UIE (UK) and its subsidiary UIE (SCOTLAND) (owners of the former John Brown's shipyard) have been restructured following the acquisition of UIE (UK) by Bouyues Offshore SA. The new board of UIE (UK) is: Mr John Stansby, chairman, Mr Alain Garrigue, managing director, Mr B. Divers, financial director, Mr G. C. Germain, marketing and business development director, Mr H. Martial, president of Bouygues Offshore SA, parent company shareholder, Mr P. Le Lay, group development director of Bouygues SA, Mr P. Bonnaud business development director of Bouygues Offsbore SA, and Mr B. van Gent, company secretary.

The new board of UIE (Scotland) is: Mr Garrigue, chairman, Mr Joe Craig, managing director, Mr B. Divers, financial director, Mr P. Dunn, projects director, Mr J. Arnott, production director, Mr A. Paresy, Bouygues Offshore SA, Mr P.-Y. Gueguen, Bouygues Offshore SA, Mr L Replumaz, Bouygues Offshore SA.

★

Mr E. R. (Ron) Porter has been appointed treasurer and assistant general manager of NATIONAL WESTMINSTER BANK'S international banking division. He succeeds Mr Roy Haines who becomes group treasurer. Mr Porter was deputy treasurer, international banking division. Mr P. B. (Phil) Lockyer has been appointed manager, North American corporate desk of the international division based in London. He worked with the Bank in Toronto and New York. Lady Digby, a member of the Wessex Water Authority and a Deputy Lieutenant for Dorset, has been appointed a director of the bank's south-west regional board.

★

GEORGE WIMPEY has appointed Mr Robert Hugh Sellier as a group managing director responsible for the international and engineering division from February 3. He has worked with Trafalgar House since 1963. His most recent appointment was chief executive of EuroRoute Construction. Before that he was managing director of the civil and specialist division of Cementation.

★

Mr John Trumper, director of Trumper Bros, Birmingham, has been elected president of the NATIONAL FEDERATION OF PLASTERING CONTRACTORS for 1986-87.

★

Mr Neville H. Searle, managing director of WIMPEY LABORATORIES since 1973, has been eppointed deputy chairman. Mr John C. Woodward moves up to managing director and Mr Brian F. Wareham has been appointed a technical director with special responsibility for geotechnical matters and foundation engineering.

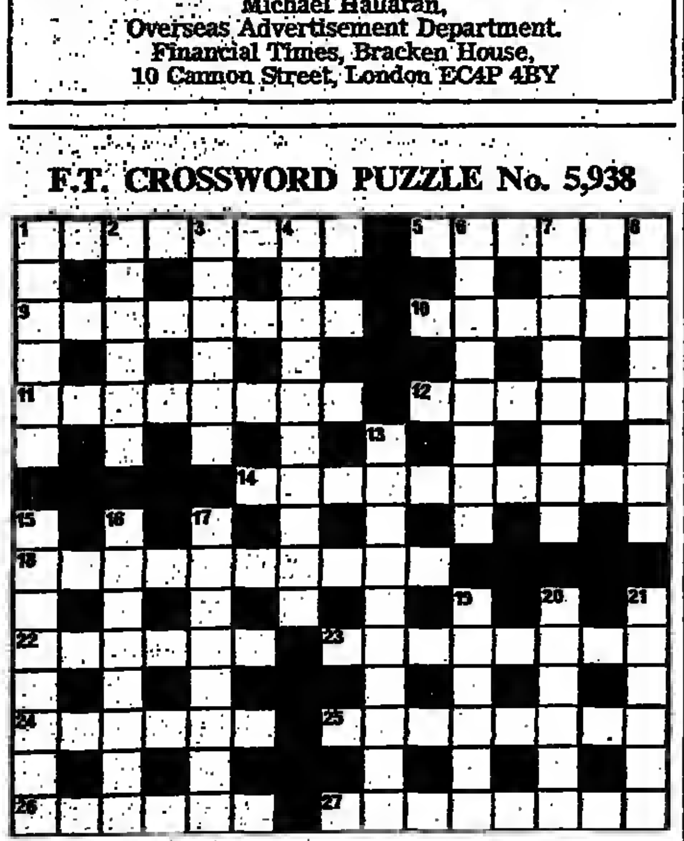
★

The BRITISH AIRPORTS AUTHORITY has appointed Mr William Shaw as corporate finance director from April 1. He is finance director with De La Rue Company.

★

REDDISH SAVILLES (a member of the Brent Chemicals International Group) has appointed Dr Brian Riley technical director—chemical sales. He was technical manager.

F.T. CROSSWORD PUZZLE No. 5,938



ACROSS

1 Wood reserved for emergency splints? (5, 3)
5 Ramble twists round the lake (6)
9 Can opener call on pluck? (4-4)
10 Go round showing underwear (4, 2)
11 Exaggerate importance of time taken for deliveries (8)
12 There's an obstacle on the line: it's a heap of earth (6)
14 Tendency to poke about reveals it (10)
18 Bad element in golf is discouraging (3-7)
22 Henry has come in second more than once (6)
23 Style of writing to follow at military headquarters (8)
24 Cancel outside article for regular publication (6)
25 One who hands over when with a foreign gentleman (8)
26 Experiences setback having previously taken e seat back (6)
27 Minor international organisation agreed to change (5-3)

DOWN

1 Litter should be removed before there's trouble (6)
2 More offensive sort of soldier (6)
3 As far as a small opening on the left (2, 4)
4 Can't read? I'll repeat it (10)
6 Matter thought to be toxic is to be turned over to Chief Engineer (8)
7 Opposed to every bit of work done on internal combustion (6)
8 Wants to hold course in line ahead (8)
13 Period after start is when game is most at risk (4, 6)
15 With musical, plot is just a convention (8)
16 A very loud snort somehow gives offence (8)
17 Obtain contract to import tea (8)
19 The way to sit on progress (6)
20 Silver object on top of a programme (6)
21 Measure growth from what is eaten (6)

The solution to last Saturday's prize puzzle will be published with names of winners next Saturday.

Contracts and Tenders

Public Notices

Company Notices

Personal

FT UNIT TRUST INFORMATION SERVICE

AUTHORISED UNIT TRUSTS

[illegible]

CONTINUED OVERLEAF

AUTHORISED UNIT TRUSTS & INSURANCES

Oppenheimer Fund Mngt Ltd
66 Cannon St, London EC4N 6AE Dlg. 01-236 3885

International Growth	120.1	128.5	-2.4	1.00
Income & Growth	47.4	50.4	+0.6	2.90
Special Situations	68.1	72.9	-0.4	2.10
American Growth	30.8	32.8	+0.2	3.10
Japan Growth	37.7	40.1	-	0.00
European Growth	51.2	54.8	-1.5	2.90
UK Growth	45.1	48.3	+0.3	1.30
Pacific Growth	32.3	34.6	-0.5	0.70
High Income	29.2	31.3	+0.1	8.10
Practical Income Units	44.4	47.8	+0.1	2.70
Practical Accum. Units	80.7	85.9	+0.1	2.70

Pearl Trust Managers Ltd (a)(g)
252 High Holborn, WC1V 7EB 01-405 8441

Pearl Growth Fd.	74.9	79.7	+0.4	2.66
Accum Units	110.7	117.8	+0.6	2.66
Pearl Inc.	101.1	107.8	+0.6	4.62
Pearl Unit Tst.	106.9	113.7	+0.6	3.67
(Accum. Units)	183.0	194.7	+1.0	3.67
Pearl Int'l Equity	105.7	112.4	-0.7	1.78
(Accum Units)	105.7	112.4	-0.7	1.78

Perpetual Unit Trust Mngmt. (a)
48 Hart Street, Henley on Thames 0491 576868

International Growth	224.7	241.1	-2.0	1.35
Income	159.9	171.2	+0.4	5.29
Worldwide Recovery	127.6	137.0	----	2.05
American Growth	63.4	68.1	----	1.04
Intl. Emerging Cos.	68.2	73.3	-0.2	0.70
Far East Growth Fd.	54.9	58.9	-0.7	1.13
European Growth Fd.	---	50.0	-	-

Prolific Unit Trusts
222 Bishopsgate, London EC2 01-247 7544/7

Prolific American Inc	51.2	54.5	-0.2	3.55
Prolific Far East	119.6	128.6	-0.3	0.32
Prolific Extra Inc.	70.5	74.8	+0.5	5.23
Prolific C'vert & Gilt	83.6	88.9	+0.2	7.09
Prolific High Inc.	150.0	159.7	+1.3	4.57
Prolific Intl.	92.2	99.1	-0.4	1.72
Prolific N. Amer.	125.5	134.5	-1.9	2.43
Prolific Spec. Sits.	165.7	179.7	+1.7	0.99
Prolific Technology	106.6	114.6	-0.9	0.56

Providence Capital Fd. Mgrs. Ltd
30 Uxbridge Road, London W12 8PG 01-749 9111

Stewart Ivory Unit Trust Mgrs Ltd (a)
45 Charlotte Sq. Edinburgh 031-226 3271

American Fund	200.0	213.0	-1.5	2.25
(Accum. Units)	224.6	239.2	-1.7	2.25
(Withdrawal Units)	144.8	154.3	-1.0	2.25
Australian Fund	120.8	128.7	-0.2	0.89
(Accum. Units)	122.1	130.1	-0.3	0.89
Growth Fund	497.0	529.8	+5.0	4.50
(Accum. Units)	661.5	705.2	+6.7	4.50
European Fund	227.5	242.3	-4.3	1.02
(Accum. Units)	239.5	255.2	-4.5	1.02
Japan Fund	233.3	248.7	-0.5	0.39
(Accum. Units)	234.0	249.5	-0.5	0.39
Saints PPP	143.6	151.2	-	-

Sun Alliance Fund Management Ltd
Sun Alliance House, Horsham 0403 56293

Equity Tst.	336.8	358.1	---	2.66
North America	53.2	56.5	---	1.80
Far East	57.3	60.9	---	0.75

Sun Life Trust Mngmt. Ltd
107 Cheapside, London EC2V 6DU 01-606 6010

Swiss Life Pen. Tst. Man. Co Ltd (a)(c)
99-101 London Rd, Sevenoaks 0732 450161

TSB Unit Trusts (b) (c) (y)
PO Box 3, Keens House, Andover, Hants SP10 1PG

INSURANCES

INSURANCE, OVERSEAS & MONEY FUNDS

OFFSHORE AND OVERSEAS

World Fund S.A.
2 Boulevard Royal, Luxembourg
World Fund NAV ... $14.59 | ... | —

World Wide Growth Management◆
10a, Boulevard Royal, Luxembourg
Worldwide Gth Fd. ... $14.41 | ... | —
Inv. Adv.: M. & G. Inv. Mngt. Ltd, London

Yamaichi Dynamic Mngt Co SA
10A Boulevard Royal, Luxembourg
Advanced Tech ... $12.40 | ... | —
Dynamic Sbth Fd ... $11.67 | ... | —

Zero Bond Fund Limited
PO Box 208, St Peter Port, Guernsey 0481 26268
Zero Bond Fund ... $10.62 11.25 | ... | —

Money Market Trust Funds

	Gross	Net	Gr Equiv C&R	Int Cr
The Charities Deposit Fund 77 London Wall, London EC2N 1DB 01-588 1815				
Deposit	11.65		...	3-Mth
The Money Market Trust 63 Qn Victoria St, EC4N 4ST. 01 236 0952				
Call Fnd	11.98	8.97	12.14	6mth
7-day Fnd	12.24	9.15	12.41	6mth
Oppenheimer Money Management Ltd 66 Cannon St, EC4N 6AE 01 236 1425				
Call Fnd	11.71	8.75	12.27	6-Mth
7-day Fund	11.17	8.80	12.84	6-Mth
Dollar	6.74		—	6-Mth

Money Market Bank Accounts

	Gross	Net	Gr Equiv C&R	Int Cr
Adam & Co. plc 22 Charlotte Sq, Edinburgh EH2 4DF 031-225 8484				
Full Service Cur Acc	11.50	8.50	12.53	Qtr
Aitken Hume 30 City Road, EC1Y 2AY 01-638 6070				
Treasury Acc.	11.75	8.78	12.47	Qtr
Mth. Int Chq.	11.75	8.78	13.06	Mth
Allied Arab Bank Ltd 97-101 Cannon St, London, EC4N 5AD 01-283 9111				
BIBCA	13.00	9.72	14.52	Mth
Bank of Scotland 38 Threadneedle St, EC2P 2EH. 01-628 8060				
Money Mkt Cheque Acc.	12.15	9.08	13.53	Mth
Barclays Prime Account PO Box 125, Northampton 0604 252891				
High Inc Cheque	12.25	9.125	12.49	Qtr
Britannia Investment Services Ltd. 74-78 Finsbury Pavement, EC2A 1JD. 01-588 2777				
Cater Allen	11.75	8.78	13.0649	Mth
Charterhouse Japhet plc 1 Paternoster Row, EC4M 7DH. 01-248 3999				
Sterling	12.00	8.96	11.35	Mth
U.S. Dollar	7.25	7.25	7.50	Mth
German Marks	4.25	4.25	4.33	Mth
Swiss Francs	1.50	1.50	1.51	Mth
Japanese Yen	5.00	5.00	5.12	Mth
Citibank Savings St Martins Hse, Hammersmith Grove 01-741 4941				
Money Market Plus	—	9.34	13.93	Mth
Co-operative Bank Cheque & Save 78-80 Cornhill EC3 01-626 6543.				
£500-£2,500	9.50	7.10	10.41	Qtr
£2,500 +	12.06	9.02	13.35	Qtr
Dartington & Co Ltd Dartington, Totnes, Devon TQ9 6JE. 0803 862271				
Money Mkt Acc.	12.00	8.97	13.24	Qtr
Edward Manson & Co Ltd 9 Henrietta Place W1M 9AG 01-631 3313				
Cheque Deposit Acc.	12.50	9.34	11.93	Mth
Henderson/Bank of Scotland 38 Threadneedle St EC2P 2EH 01-628 8060				
Money Mkt. Cheque Acc.	12.15	9.08	13.53	Mth
Legal & General (Money Mngrs) Ltd 355 Euston Road, NW1 3AG 01-388 3211				
High Int Dep Acc.	12.04	9.00	13.14	6-mth
Lloyds Bank PLC 71 Lombard St, London, EC3P 3BS. 01-626 1500				
HighIntCheque Account	11.75	9.00	13.30	Qtr
Lombard North Central PLC 17 Bruton St, W1A 3DH. 01-409 3434				
14-Day Notice	12.500	9.344	13.349	...
M & G/Kleinwort Benson 91-99 New London Rd, Chelmsford. 0245 51651				
H.I.C.A.	12.00	8.97	13.37	Daily
Midland Bank plc PO Box 2, Sheffield. 0742 20999 Ext 8655				
High Int Chq Acc.	11.71	8.75	12.93	Qtr
£10,000 +	12.04	9.00	13.30	Qtr
Oppenheimer Money Mgmnt Ltd 66, Cannon St, EC4N 6AE. 01-236 1425				
Money Mngt. Acc.	11.375	8.50	12.17	3-Mth
Phillips & Drew Trust Ltd 120 Moorgate, London EC2M 6XP 01-628 9771				
High Int Chq Acc.	12.00	8.97	13.25	Qtr
Provincial Trust 30 Ashley Rd, Altrincham, Cheshire 061-928 9011				
High Int Chq Acc.	12.50	9.34	13.93	Mth
Royal Bank of Scotland plc 24 Lombard St, London EC3V 9BA 031-557 0201				
Premium Account	12.15	9.08	13.42	Qtr
Save & Prosper/Robert Fleming 28 Western Rd, Romford RM1 3LB. 0708 66966				
H.I.B.A.	11.50	8.60	12.82	Daily
Tyndall & Co 29-33 Princess Victoria St, Bristol. 0272 732241				
Demand Acc.	12.12	9.06	11.34	Qtr
Money Acc.	12.04	9.00	13.29	Qtr
J. Henry Schroder Wagg & Co Ltd Enterprise House, Portsmouth 0705 827733				
Special Acc.	11.00	8.22	12.20	Mth
Over £10,000	11.25	8.41	12.49	Mth
Western Trust & Savings Limited The Moneycentre, Plymouth PL 1SE 0752 24141				
High Int Chq Acc.	12.49	9.43	11.97	Qtr

NOTES—Gross: rate to those exempt from composite rate of tax. Net: actual rate after deduction of CRT. Gr Equiv CAR: Gross equivalent to basic rate taxpayers—compounded annual rate. Int Cr: frequency interest credited.

NOTES

Prices are in pence unless otherwise indicated and those designated $ with no prefix refer to U.S. dollars. Yields % (shown in last column) allow for all buying expenses. a Offered prices include all expenses. b Today's prices. c Yield based on offer price. d Estimated. g Today's opening price. h Distribution free of UK taxes. p Periodic premium insurance plans. s Single premium insurance. x Offered price includes all expenses except agent's commission. y Offered price includes all expenses if bought through managers. z Previous day's price. ¶ Guernsey gross. ‖ Suspended. ◆ Yield before Jersey tax. † Ex-subdivision. ‡‡ Only available to charitable bodies. ◆ Yield column shows annualised rates of NAV increase. xd ex dividend.

OPTIONS

3-month call rates

Industrials	p		p
Allied-Lyons	28	Marks & Spencer	13
BAT	26	Metal Closures	14
BOC Grp.	27	Midland Bk.	35
BSR	8	NEI	10
BTR	33	Nat West Bk.	55
Babcock	13	P & O Dfd	35
Barclays	33	Plessey	14
Beecham	30	Polly Peck	21
Blue Circle	50	Racal Elect.	19
Boots	18	RHM	12
Bowaters	30	Rank Org Ord	35
Brit Aerospace	32	Reed Intnl	60
Brit. Telecom	17	Sears	11
Brown (J.)	3½	TI	35
Burton Ord	45	Tesco	24
Cadburys	13	Thorn EMI	34
Charter Cons.	18	Trust Houses	12
Comm Union	23	Turner Newall	9½
Courtaulds	13	Unilever	90
Distillers	36	Vickers	35
FNFC	12	**Property**	
Gen Accident	55	Brit Land	14
Gen Electric	14	Land Secs.	26
Glaxo	100	MEPC	26
Grand Met	30	Peachey	24
GUS 'A'	70	Samuel Props	15
Guardian	60	**Oils**	
GKN	20	Brit. Oil & Min.	3½
Hanson Tst.	18	Brit Petroleum	45
Hawker Sidd.	36	Burmah Oil	27
ICI	42	Charterhall	4
'Imps'	16	Premier	5
Jaguar	27	Shell	55
Ladbroke	27	Tricentrol	18
Legal & Gen	60	Ultramar	18
Lex Service	24	**Mines**	
Lloyds Bank	35	Cons Gold	40
Lucas Inds	38	Lonrho	12
		Rio T Zinc	50

A selection of Options traded is given on the London Stock Exchange Report Page.

LONDON SHARE SERVICE

BRITISH FUNDS

Interest Due		Stock	Price £	Last xd	Yield Int.	Yield Red.
"Shorts" (Lives up to Five Years)						
11Oct	11Apr	Treas. 10pcCnv 1986	[illegible]	4.9	[illegible]	12.68
19 Nov	19 May	Treas 3pc 1986	97[illegible]	14.10	[illegible]	11.04
19 Nov	19 May	Exch. 10½pc 1986	99[illegible]	14.10	[illegible]	12.85
12Dec	12Jun	Treas 12pc 1986	99[illegible]	5.11	[illegible]	12.75
10 Jan	10 Jul	Treas 8¾pc 1984-86‡‡	[illegible]	4.12	[illegible]	12.18
29 Apr	29 Oct	Exch. 14pc 1986	100[illegible]	23.9	[illegible]	12.57
21 May	21 Nov	Exch. 2½pc 1986	95[illegible]	15.10	[illegible]	8.85
22Jul	22Jan	Exch 13½pc 1987	100[illegible]	16.12	[illegible]	12.38
10 Aug	10 Feb	Treas 10¼pcCv '87	[illegible]	[illegible]	[illegible]	12.42
24Aug	24Feb	Exch 2½pc 1987	93[illegible]	20.1	[illegible]	9.43
6Oct	6Apr	Exch. 10½pc 1987	98	2.9	[illegible]	12.33
1 Nov	1 May	Funding 6½pc '85-87‡‡	94[illegible]	25.9	[illegible]	11.41
12Dec	12Jun	Treas. 10pc 1987	97[illegible]	5.11	[illegible]	12.17
14Jan	14Jly	Treas 3pc 1987	91[illegible]	9.12	[illegible]	9.75
3May	3Nov	Treas. 12pc 1987	99[illegible]	27.9	12.01	11.99
26 Jul	26 Jan	Treas 7¾pc 1985-88‡‡	93[illegible]	20.12	8.29	11.47
10Nov	10May	Exch 10½pc '88	97[illegible]	4.10	10.76	11.74
14Dec	14Jun	Treas 9¾pc Cv '88	95[illegible]	7.11	10.17	11.78
1Jan	1Jul	Transport 3pc '78-88	86[illegible]	25.11	3.45	9.17
25 Apr	25 Oct	Treas. 9½pc '88	94[illegible]	18.9	10.03	11.81
22 Aug	22 Feb	Treas 11½pc 1989	99[illegible]	16.1	11.56	11.74
18 Oct	18 Apr	Treas 9½pc Cnv. '89	94[illegible]	11.9	10.10	11.76
15Nov	15May	Treas 3pc 1989	83[illegible]	9.10	3.61	9.09
14Dec	14Jun	Treas 10½pc 1989	96[illegible]	7.11	10.84	11.66
1Feb	1Aug	Exch.10pc 1989	95[illegible]	27.12	10.50	11.71
29 Mar	29 Sep	Exch 11pc 1989	97[illegible]	23.8	11.23	11.69
15 Apr	15 Oct	Treas 5pc 1986-89	85[illegible]	9.9	5.88	9.91
15 May	—	Exch 10¼pcCv '89	96[illegible]		[illegible]	11.52
15 Jul	15 Jan	Treas 13pc 1990‡‡	104[illegible]	9.12	[illegible]	11.52

Five to Fifteen Years

Over Fifteen Years

Undated

Index-Linked

INT. BANK AND O'SEAS GOVT STERLING ISSUES

CORPORATION LOANS

COMMONWEALTH & AFRICAN LOANS

LOANS

Building Societies

Public Board and Ind.

Financial

FOREIGN BONDS & RAILS

AMERICANS

AMERICANS—Cont.

CANADIANS

BANKS, HP & LEASING

Hire Purchase, Leasing, etc.

BEERS, WINES & SPIRITS

BUILDING, TIMBER, ROADS

BUILDING, TIMBER, ROADS—Cont.

CHEMICALS, PLASTICS

DRAPERY AND STORES

DRAPERY & STORES—Cont.

ELECTRICALS

ENGINEERING

ENGINEERING—Continued

FOOD, GROCERIES, ETC.

HOTELS AND CATERERS

INDUSTRIALS (Miscel.)

INDUSTRIALS—Continued

هكذا أصل

INDUSTRIALS—Continued

LEISURE—Continued

MOTORS, AIRCRAFT TRADES

Motors and Cycles

Commercial Vehicles

Components

Garages and Distributors

NEWSPAPERS, PUBLISHERS

PAPER, PRINTING, ADVERTISING

INSURANCES

PROPERTY

LEISURE

PROPERTY—Continued

SHIPPING

SHOES AND LEATHER

SOUTH AFRICANS

TEXTILES

TOBACCOS

TRUSTS, FINANCE, LAND

Investment Trusts

INVESTMENT TRUSTS—Cont.

Finance, Land, etc

FINANCE, LAND—Cont.

OIL AND GAS

OVERSEAS TRADERS

PLANTATIONS

Rubbers, Palm Oil

Teas

MINES

Central Rand

Eastern Rand

Far West Rand

MINES—Continued

O.F.S.

Diamond and Platinum

Central African

Finance

Australians

Tins

Miscellaneous

Dividends Paid	Stock	Price	Last xd	Div Net	C'vr	Y'ld Gr's
	Greenwich Res	77	—	—	—	—
Apr Oct	Hampton Areas 10p	130	23.12	3.75	0.9	19
—	Highwood Res	190	—	—	—	—
May Aug	Homestake Mining $1	£18¼	30.1	Q20c	—	0.7
—	McTinley Red Lake	210	—	—	—	—
—	Mosto Explorations	255	—	—	—	—
—	New Sabina Res C$1	45	—	—	—	—
—	Northgate C$1	245	9.77	—	—	—
Jan. July	RTZ	573	28.10	20.0	2.8	5.0
Jan July	Do 9½pc Ln '95-2000	£127	28.10	Q9½%	14.0	7.5
—	Tara Expln $1	950	—	—	—	—

NOTES

Unless otherwise indicated, prices and net dividends are in pence and denominations are 25p. Estimated price/earnings ratios and covers are based on latest annual reports and accounts and, where possible, are updated on half-yearly figures. P/Es are calculated on "net" distribution basis, earnings per share being computed on profit after taxation and unrelieved ACT where applicable; bracketed figures indicate 10 per cent or more difference if calculated on "nil" distribution. Covers are based on "maximum" distribution; this compares gross dividend costs to profit after taxation, excluding exceptional profits/losses but including estimated extent of offsettable ACT. Yields are based on middle prices, are gross, adjusted to ACT of 30 per cent and allow for value of declared distribution and rights.

- "Tap Stock".
- Highs and Lows marked thus have been adjusted to allow for rights issues for cash.
- Interim since increased or resumed.
- Interim since reduced, passed or deferred.
- Tax-free to non-residents on application.
- Figures or report awaited.
- Not officially UK listed; dealings permitted under Rule 535(4)(a).
- USM, not listed on Stock Exchange and company not subjected to same degree of regulation as listed securities.
- Dealt in under Rule 535(3).
- Price at time of suspension.
- Indicated dividend after pending scrip and/or rights issue: cover relates to previous dividend or forecast.
- Merger bid or reorganisation in progress.
- Not comparable.
- Same interim; reduced final and/or reduced earnings indicated.
- Forecast dividend; cover on earnings updated by latest interim statement.
- Cover allows for conversion of shares not now ranking for dividends or ranking only for restricted dividend.
- Cover does not allow for shares which may also rank for dividend at a future date. No P/E ratio usually provided.
- No par value.

B Fr. Belgian Francs. Fr French Francs. ¶¶ Yield based on assumption Treasury Bill Rate stays unchanged until maturity of stock. a Annualised dividend. b Figures based on prospectus or other offer estimate. c Cents. d Dividend rate paid or payable on part of capital, cover based on dividend on full capital. e Redemption yield. f Flat yield. g Assumed dividend and yield. h Assumed dividend and yield after scrip issue. j Payment from capital sources. k Kenya. m Interim higher than previous total. n Rights issue pending. q Earnings based on preliminary figures. s Dividend and yield exclude a special payment. t Indicated dividend: cover relates to previous dividend, P/E ratio based on latest annual earnings. u Forecast dividend: cover based on previous year's earnings. v Subject to local tax. x Dividend cover in excess of 100 times. y Dividend and yield based on merger terms. z Dividend and yield include a special payment: Cover does not apply to special payment. A Net dividend and yield. B Preference dividend passed or deferred. C Canadian. E Minimum tender price. F Dividend and yield based on prospectus or other official estimates for 1984-85. G Assumed dividend and yield after pending scrip and/or rights issue. H Dividend and yield based on prospectus or other official estimates for 1986. K Figures based on prospectus or official estimates for 1984. M Dividend and yield based on prospectus or other official estimates for 1985-86. N Dividend and yield based on prospectus or other official estimates for 1985. P Figures based on prospectus or other official estimates for 1983. Q Gross. T Figures assumed. Z Dividend total to date.

Abbreviations: xd ex dividend; xc ex scrip issue; xr ex rights; xa ex all; xd ex capital distribution.

REGIONAL & IRISH STOCKS

The following is a selection of Regional and Irish stocks, the latter being quoted in Irish currency.

Albany Inv 20p	102	Fin. 13% 97-02	£104¼
Craig & Rose £1	850	Arnotts	230
Finlay Pkg. 5p	43	CPI Hldgs	56
Holt (Jos) 25p	720	Carrol Inds	145
IoM Stm. £1	52	Dublin Gas	55
		Hall (R & H)	60
IRISH		Heiton Hldgs	25
Fund 11¼% 1988	£97½	Irish Ropes	49
Nat. 9¾% 84/89	£93½	Unidare	150

"Recent Issues" and "Rights" Page 22
(International Edition Page 24)

TECHNOLOGY

SGS ready to launch a Cad company

SGS, Italy's leading micro-electronics company, owned by the IRI-Stet state holding group, is this week planning to put the finishing touches to a new computer aided design company which will produce custom and semi-custom integrated circuits for the European market.

Although SGS already has three Cad centres in Italy and others in the UK, France, West Germany, Singapore and the US, the idea of the new company is to create a specialist business which will both design and manufacture prototype custom products. The SGS main manufacturing plant at Agrate, just outside of Malan, would produce the chips in quantity.

Mr Piero Martinotti, SGS vice president in charge of strategy and technology, said he expected the company to be operating by late spring and to achieve full capacity by the end of the year.

He said the goal was to achieve about US$90m (£64m) turnover by 1990, of which about a quarter would come from Italy and the rest from other European markets.

The launch will put SGS in competition with big semi-conductor groups such as Plessey, Ferranti, NEC and LSI Logic, the last having announced plans recently for a new plant in West Germany.

The new company, as yet unnamed, will be about 10 miles from Agrate. It will be given all SGS's basic semi-conductor technology. Its main assets will be a computer aided design system and a product library containing a proven set of cells which can be combined to create custom circuits.

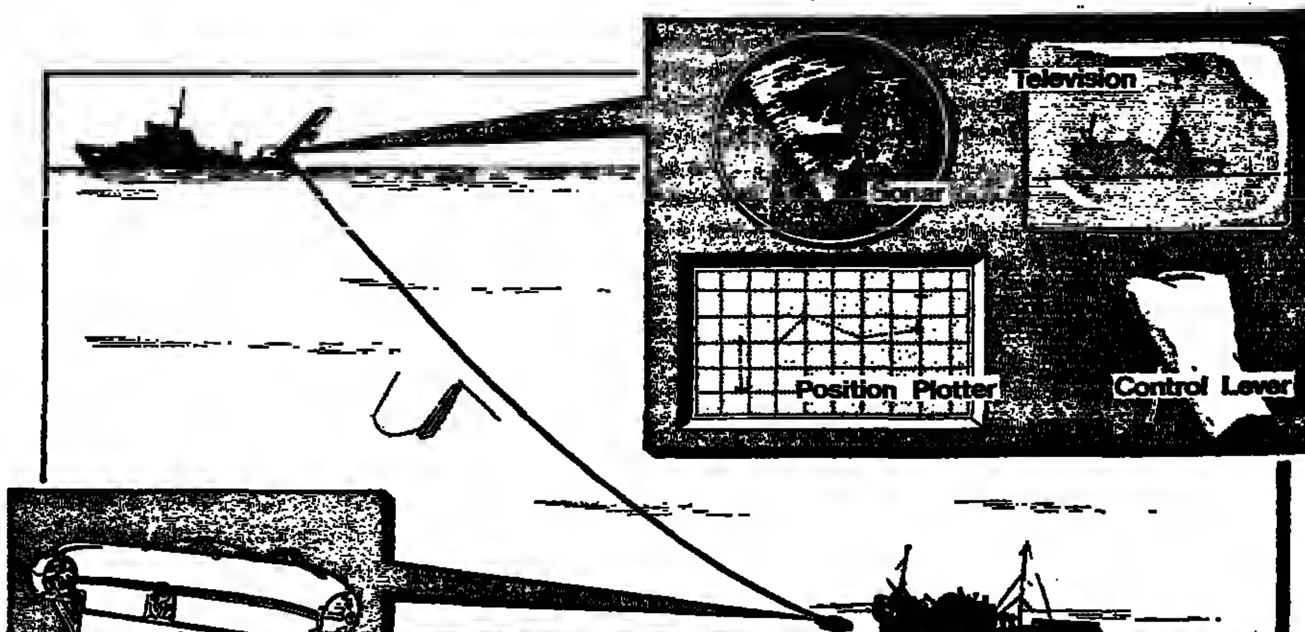
Mr Pasquale Pistorio, SGS managing director, said the company would achieve productive capacity for about 1,000 projects a year. Orders for custom products would be executed within three weeks, he said.

SGS is expected to start the company as a wholly owned subsidiary with L20bn (£8.7m) of initial capital. Investments over the next five years should total about US$50m (£35.6m).

ALAN FRIEDMAN IN MILAN

Geoffrey Charlish on a new lease of life for remotely operated tethered submerged vehicles

Mine hunter blazes a trail into the deep



REMOTELY operated tethered submerged vehicles seem set for a new lease of life as engineers equip them with more power, versatility and intelligence.

A recent design from Fairey Hydraulics, for example, can be airfreighted to an operational area and be in action in an hour or two. In the US, experimental vehicles are becoming intelligent and able to "think" for themselves.

In the UK, the Royal Navy is taking increased interest and the Defence Ministry is expected soon to place orders worth over £10m. The craft will be used to hunt mines and retrieve torpedoes. The annual market is thought to be in excess of £100m.

Such vehicles, instrumental in locating the wreck of the Titanic last September, heve gradually revolutionised subsea location techniques over the last decade. The art of working underwater at great depths, without risk to life and limb, has been greatly advanced.

Improvements in propulsion techniques, underwater navigation, robotics, sensing and communications technology have prodnced compact tethered craft that can dive deeper, see better, remain submerged longer and carry out more complicated tasks.

ROVs, as they are known, take power and navigational instructions from a mother ship via an umbilical cable and send information about their surroundings, from television cameras and sonar scanners, in the opposite direction.

No divers are needed, an important advantage in dangerous naval applications, and the craft have far greater endurance than manned mini-submarines where the crew normally has to be relieved after six to eight hours.

The ROV can stay submerged for days to search large sea-bed areas. Its endurance is limited only by the weather and the ability of the mother ship to stay on station.

Most of the impetus to develop the ROV has come from the offshore oil industry. Since the emergence of the first commercial craft in the early 1970s, many hundreds have been put into service.

Generally, basic vehicles have been offered without sensing or guidance systems, which have been edded by the purchaser. Now, however, complete air-freightable systems, with vehicle control cabin and all the electronics, are appearing. One of the first is from Fairey in the UK. The main applications are inspection and maintenance of offshore platforms, submerged pipelines and cables, but the world's navies are now looking at ROVs. One of the first designs was used in the mid-60s by the US Navy to retrieve an atomic bomb from the Mediterranean.

Fairey's latest craft, the Trail Blazer, is made in conjunction with International Submarine Engineering, of Canada, which has already sold 100 craft of previous models. Trail Blazer is specifically designed to naval requirements for mine counter measures (MCM).

A big headache for the world navies is the disposal of the latest mines which have become increasingly difficult to sweep conventionally. They can contain magnetic, acoustic and other forms of trigger mechanism and need visual appreciation by disposal officers before they can be dealt with.

Trail Blazer, capable of six knots on the surface, would go out in front of a minesweeper, use sonar (100 yards range) to locate the mine and then close in visually with a nose-mounted TV camera to place a disposal charge. The craft produces little acoustic noise when "creeping up" and little magnetic disturbance since its hull is made from aluminium and the current down the umbilical (which produces e field) is kept to a minimum.

Manoeuvrability is important in such inspection roles, and the Fairey craft has five electro-hydraulic propellers, two at the stern for forward and backward motion, two amidships for sideways movement, and a fifth mounted below the midships for up and down motion.

A total of 30 horse power is available from the hydraulic motors, permitting manoeuvring in strong tidal currents. The craft can operate down to 500 metres.

On shore, an operator has e "joystick" control, the motions of which are converted into levels of power fed to the five units, producing movement in any desired direction.

The operator also has e forward sonar scan with 100 yards range operating every 10 seconds or so for long-distance location, with a low-light television system for closer work. On an electronic map, a track generating system shows where the craft has been and what targets have been located and marked.

There are several other UK companies in the field. UDI of Aberdeen, part of the John Brown group, has been developing a tractor-driven vehicle for British Petroleum which crawls on the ses bed, digs a trench and lays pipes or cables. UDI has developed its own sonar with 360 degree scan and a range of 1,000 metres. It has also designed a navigstion and positioning system.

Other UK contenders include Offshore Systems Engineering, Slingsby Engineering and the Osel Group. The market for military craft, however, has been dominated to date by Societe ECA of France.

Perry Offshore, Ametek Straza and Hydro Products are the big US participants. The US industry is spearheading new technology in ROVs. Hydro Products, for example, uses fibre optic transmission of data up the umbilical allowing higher data rates and lighter cable.

At long extensions, umbilical cables produce drag forces, power losses and the prospect of cable snagging. Ideally, the ROV should be self-contained. But for electrical propulsion, the best batteries are still heavy, indicating restricted endurance, work performance and/or speed.

There are also problems of getting data to and from the craft. Only sound or ultrasound travel satisfactorily through deep water, but cannot cope with the amount of data pro dnced by live TV pictures. So single frames of TV, transmitted slowly, are being tried.

One answer to the data problem lies in making the craft intelligent and programmable so that it can be told to do something, do it, record the data, and return to the mother ship with its information. Fairey's partner, ISE, Societe ECA and US defence laboratories are looking at the problem. But it is a difficult software challenge.

Move into process control

KLIPPON, an electrical component maker in Kent, has formed a company, Klippon HTE Microsystems, which will offer computerised process control equipment based on the Super Rexagan range developed by Imperial Chemical Industries.

The company says it has no intention of taking on the big process control companies such as Honeywell and Foxboro but will seek to fill the gap between large sophisticated systems and simple programmable logic controllers.

The company's first product, System Micro-K, offers considerable versatility at prices roughly between £5,000 and £25,000. It employs standard "building bricks" that can be fitted together in many ways to give a variety of control systems.

The central processing function is performed by a personal computer (IBM PC, Digital Q-Bus, Commodore, Toshiba) and the plant signals are converted by Super Rexagan into a form recognisable by the micro.

More on 0795 663322.

Machine tool control system

HOSKYNS, a computer services company, is to supply a computerised integrated manufacturing system to Victor Products, an industrial and mining equipment maker.

The £500,000 system will control machine tools in a flexible manufacturing cell made by Kearny and Trecker Marwin.

WORLD STOCK MARKETS

Indices

NEW YORK

	Jan. 31	Jan. 30	Jan. 29	Jan. 28	1985-86 High	1985-86 Low
SOUTH AFRICA JSE Gold (28/9/78)	—	1308.9	1284.5	1302.7	1307.8 (27/1/86)	839.5 (5/8)
JSE Indust (28/9/78)	—	1080.6	1081.7	1077.5	1112.8 (9/1/86)	767.1 (7/8)
SPAIN Madrid SE (30/12/85)	109.85	108.88	107.50	108.15	119.11 (20/1/86)	100.0 (30/12/85)
SWEDEN Jacobson & P (31/12/56)	1757.86	1760.48	1729.57	1763.56	1907.23 (8/1/86)	1265.52 (9/7)
SWITZERLAND Swiss BankCpn (31/12/58)	568.5	565.5	578.2	575.1	625.5 (8/1/86)	588.7 (5/1/85)
WORLD M.S. Capital Intl. (1/1/70)	258.2	—	258.8	258.0	259.0 (7/1/86)	184.5 (4/1/85)

** Saturday February 1: Japan Nikkei 13,043.61. TSE 1,044.33.

Base value of all indices is 100, except: Brussels SE—1,000; JSE Gold—255.7; JSE Industrial 264.3; Australia All Ordinary and Metals—500; NYSE Composite—50; Standard and Poors—10; and Toronto Composite and Metals—1,000. Toronto indices based 1975 and Montreal Portfolio 4/1/83. † Excluding bonds. ‡ 400 Industrials plus 40 Utilities, 40 Financials and 20 Transports. c-Closed. u Unavailable.

CANADA

TORONTO

Closing prices January 31

MONTREAL

Closing prices January 31

AUSTRIA

BELGIUM/LUXEMBOURG

DENMARK

SWITZERLAND

FRANCE

AUSTRALIA

ITALY

NETHERLANDS

SWEDEN

GERMANY

1985/6 High	1985/6 Low	Jan. 31	Price Dm
512	100.5	AEG	295.5
2,665	861	Allianz Vers	9,243
286	175.8	BASF	265.4
294.6	183	Bayer	883xr
654	309.5	Bayern Hypo	538

NORWAY

HONG KONG

SOUTH AFRICA

SINGAPORE

JAPAN

1985/6 High	1985/6 Low	Feb. 3	Price Yen
1,565	1,040	Ajinomoto	1,210
875	413	All Nippon Air	850
2,097	1,105	Alps Electric	1,960
1,100	591	Asahi Chem	768
945	769	Asahi Glass	900

SPAIN

NOTES—Prices on this page are as quoted on the individual exchanges and are last traded prices. § Dealings suspended. xd Ex dividend. xc Ex scrip issue. xr Ex rights. xa Ex all.

OVER-THE-COUNTER

Nasdaq national market, closing prices, January 31

Continued from Page 35

N. AMERICAN QUARTERLY RESULTS

McGRAW-HILL
Business publishing

Fourth quarter	1985 $	1984 $
Revenue	418.6m	401.8m
Net profits	40.8m	40.6m
Net per share	0.81	0.81
Year		
Revenue	1.49bn	1.4bn
Net profits	147.4m	144.2m
Net per share	2.92	2.86

MEAD
Pulp and paper

Fourth quarter	1985 $	1984 $
Revenue	637.8m	626.5m
Net profits	13.2m	23.4m
Net per share	0.42	0.75
Year		
Revenue	2.74bn	2.72bn
Net profits	93.5m	139.3m
Net per share	3.02	4.54

OCEAN DRILLING & EXPLORATION
Energy exploration

Fourth quarter	1985 $	1984 $
Revenue	153.8m	253.5m
Net profits	3m	18.4m
Net per share	0.06	0.35
Year		
Revenue	650.1m	794.7m
Net profits	33.7m	82.5m
Net per share	0.65	1.59

DUN & BRADSTREET
Business information

Fourth quarter	1985 $	1984 $
Revenue	807.5m	659m
Net profits	72.3m	62.5m
Net per share	0.96	0.83
Year		
Revenue	2.77bn	2.39bn
Op. net profits	294.7m	252.7m*
Op. net per share	3.88	3.33*

* Excludes $205.7m gain from asset redeployment

SCOTT PAPER
Paper products

Fourth quarter	1985 $	1984 $
Revenue	826.8m	747.2m
Net profits	49.8m	49.9m
Net per share	1.36	1.02
Year		
Revenue	3.04bn	2.84bn
Net profits	201.1m	167m
Net per share	4.52	3.83

ST. PAUL COS.
Insurance

Fourth quarter	1985 $	1984 $
Revenue	749.4m	627.7m
Op. net profits	40.4m	†103.8m
Op. net per share	2.02	†5.17
Year		
Revenue	2.67bn	2.35bn
Op. net profits	42.1m	†169.8m
Op. net per share	2.15	†9.82

† Loss

Closing prices, January 31

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

12 Month High	12 Month Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
28	16	AAR	.25	2.1	16	817	26⅝	25⅝	26⅝	+⅛
24⅝	10¼	AGS			16	111	22⅞	22½	22½	−⅛
13⅝	9⅞	AMCA				25	12¼	12⅛	12¼	
50¾	35¾	AMR			5	4480	48⅛	46⅝	46⅝	−⅜
24¼	18⅝	AMR pf2.18		9.1		20	24	23⅞	23⅞	+¼
25⅞	23¼	ANR pf2.67		11.		1	24⅛	24½	24½	−¼
11⅝	7⅝	APL			8	4	10½	10½	10½	
16¾	16⅝	ARX			12	60	13⅝	13⅜	13½	
55⅝	32¼	ASA	2a	3.8		1164	40⅝	39¾	40⅝	+⅛
27	10½	AVX		2.2		130	14½	14	14¼	+⅛
28⅛	20⅝	AZP	2.72	10.	7	1134	27⅛	27	27⅛	
72	45¼	AbtLab 1.40		2.9	16	2552	60	67¼	68¼	+1¼
28⅝	19⅝	AccoWd .30		1.6	20	421	u28½	27⅞	28¼	+¼
24¾	10	AcmeC .40		2.9	18	206	19⅝	12⅝	13⅝	+1
10½	7	AcmeE .32b		3.6	18	23	8⅞	8¾	8⅞	
19¾	16⅛	AdaEx 1.90e		11.		84	17⅞	17⅝	17¾	
22¾	14	AdmMl .48		1.9	9	11	20⅞	20⅞	20⅞	−⅛
19⅝	8¾	AdvSys1.38t		0.1	18	464	17	16⅝	16¾	−¾
36⅝	22⅛	AMD				6069	28¼	26⅞	27	−1
12⅝	10⅝	Adobe n				103	11⅜	11⅛	11⅜	+¼
18⅝	14⅝	Adob pf 1.84		11.		19	16¾	16⅝	16⅝	+⅛
18½	15¼	Adob pf 2.48		10.		36	18	17⅞	18	+¼
15½	8⅝	Advest .12a		.8	13	448	14⅞	14⅜	14½	
57½	60	AetnLf 2.84		4.7	16	9952	58¼	53¼	58	
57½	52½	AetL pf5.19e		9.6		202	54½	54	54	−¼
100¾	98¾	AetL pfC				100	100	100	100	
59¼	27¼	Ahmns 1.20		2.1	7	1552	58½	56	57¼	+¾
4⅝	2½	Aileen			213	200	4¼	4	4¼	+¼
72½	46⅞	AirPrd 1.48		2.1	18	757	71⅞	70⅞	71	−½
24⅝	17½	AirbFrt .60		3.1	11	138	19¼	19	19¼	
[illegible]										

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I I I

J J J

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Continued on Page 35

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NYSE COMPOSITE CLOSING PRICES

Continued from Page 34

12 Month High	12 Month Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
10 3/8	4	PacifPr				1546	8 7/8	8 5/8	8 7/8	
10 3/8	6 3/8	Pardyn				1055	6 3/4	6 1/2	6 5/8	
17 3/8	11 1/2	ParkEl .06e	.4	16		41	16 1/8	15 3/4	16	+ 1/8
7 1/2	4	ParkDrl.08	2.9			358	4 1/8	4	4	
39 1/2	28 3/4	ParkH 1.12	2.9	13		294	39	37 1/2	39	+1
28 1/2	15	ParkPn.52t	1.9			2482	u28 3/4	27	27 1/4	−2
5	3 1/4	PatPtr s		10		177	3 5/8	3 3/8	3 5/8	+ 1/4
15 3/4	11 1/2	PayNP .64	4.9	16		298	13 1/2	12 3/4	13	+ 1/4
23 3/8	13 1/2	PayCsh .16	.9	20		1164	17 3/4	17 3/8	17 3/4	+ 3/8
1 1/8	1/4	Pengo				94	1-16	13-32	7-16	
58 3/8	45	PenCen		20		852	34 5/8	33 3/4	34 5/8	+ 5/8
58 3/4	45 3/8	Penney2.36	4.9	11		1605	49 5/8	57 3/4	58 5/8	+ 1 1/2
29 7/8	23 1/2	PaPL 2.56	8.6	11		929	29 7/8	29 5/8	29 7/8	+ 1/4
42	34	PaPL pf4.40	11.			z10	40 5/8	40 3/8	40 3/8	− 1/8
41 1/2	33 1/2	PaPL pf4.50	11.			z100	40 5/8	40 3/8	40 3/8	− 1/8
29 3/4	25 7/8	PaPL dpr3.42	12.			5	28 3/4	28 3/4	28 3/4	+ 7/8
28	23 1/2	PaPL dpr2.90	10.			13	28	27 3/4	27 7/8	− 1/8
77 1/2	62 5/8	PaPL pr8.40	11.			z60	77 1/4	75 1/2	77 1/4	+ 1/4
29 1/2	24 5/8	PaPL dpr3.25	11.			26	29	28 3/4	29	
31 3/4	28	PaPL dpr3.75	12.			7	30 5/8	30 5/8	30 5/8	+ 3/8
44 1/2	34	Penwlt 2.20	5.1			493	43 1/4	42 3/4	43	
28 5/8	21 7/8	Pennw pf1.60	6.2			18	26	26	26	+ 1/2
81	34	Pennzol2.20	3.3	30		697	68	67	67 1/8	− 3/8
20 3/8	14 5/8	PeopEnl.20	3.1	9		515	19 7/8	19 1/4	19 3/4	+ 1/8
28 1/2	16 7/8	PepBys .28	.7	21		128	27 1/4	26 7/8	27 1/4	+ 1/2
75 3/8	42	PepsiCo1.78	2.5	12		2224	71 1/4	70 3/4	71	+ 5/8

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12 Month High	12 Month Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
6 1/8	1 1/4	WCNA				4315	1 1/2	1 1/4	1 1/4	
50 1/2	11	WCNA pf7.25	62.			1138	11 3/4	11	11 5/8	+ 1/2
139 3/4	107	WPacI		11		7	134 1/2	134	134 1/2	+ 1/2
15 5/8	8 5/8	WstSL s .20	1.3	6		988	15 3/4	14 7/8	15 1/2	+ 1/2
16 1/2	7 1/2	WUnion				1185	11 5/8	11 1/8	11 1/8	− 1/4
7 3/4	3 1/2	WnU pfS				57	7	6 7/8	6 7/8	− 1/4
14 1/4	6	WnU pfE				68	12 7/8	12 5/8	12 3/4	− 1/8
15 1/8	6	WUTI pfA				14	14 1/4	14 1/4	14 1/4	
45 3/4	25	WstgE 1.20	2.7	13		4752	45 1/4	44 3/8	44 7/8	+ 3/8
46 3/8	34 7/8	Westvc 1.32	2.8	13		577	u47	46 1/4	46 7/8	+ 1/2
33 5/8	24 3/4	Weyerhl.30	4.9	25		8113	33 1/8	32	33 1/8	+ 3/4
48	37 7/8	Weyr pf2.80	6.1			203	u46 1/4	45 5/8	46 1/4	+ 1/8
53 7/8	46 3/4	Weyr pr4.50	8.6			58	u54	53 5/8	54	+ 1/4
17 1/8	6 5/8	vjWhPit				33	7 7/8	7 1/2	7 7/8	+ 1/4
37 1/2	14 1/8	vjWPit pfB				z60	21	21	21	−1
54 1/4	40 1/2	Whirlpl 2	3.6	11		1303	u56	53 3/4	54 7/8	+ 7/8
36 5/8	25 1/2	WhitC 1.50	4.4			387	33 7/8	33 1/4	33 7/8	+ 1/2
34 5/8	19 3/8	Whitehl		12		148	32 1/2	31 1/8	32 3/8	+ 1 1/4
25 1/2	17 1/4	Whittak.60	3.2	14		609	19 1/4	16 7/8	18	
15 5/8	6	Wilfred .12	.9	14		2	12 3/4	12 7/8	12 7/8	− 1/2
14 1/4	7 7/8	WilcxG.19	.7	6		224	14 1/4	13 5/8	14 1/8	+ 1/2
33 1/2	21 3/4	Willam1.40	5.6	18		3536	24 5/8	23 7/8	24 1/4	+ 7/8
8 1/2	2 7/8	WilmEl				119	7 7/8	7 5/8	7 5/8	
7 5/8	4 1/2	WilshrO10b	2.2	14		32	4 5/8	4 1/2	4 5/8	+ 1/8
39 7/8	32 1/8	WinDix 1.74	4.5	14		430	38 1/2	35 5/8	38 3/4	+ 2 3/4
20 7/8	8 1/2	Winnbg .20	1.4	27		1171	14 1/2	13 7/8	14	
8 5/8	5 5/8	Winner				123	6 5/8	6 5/8	6 1/2	− 1/8
9 1/2	4	WinterJ				21	7 3/4	7 1/2	7 5/8	+ 1/4
43 5/8	30 3/4	WiscEP2.48	5.8	10		1954	43 1/4	42 1/2	42 3/4	− 1/2
95	75 3/4	WisE pf8.90	9.4			z10	95	95	95	−1
42 1/4	28 1/8	WiscPL2.84	6.8	10		79	42	41 5/8	41 7/8	+ 1/4
40 3/4	29 3/4	WiscPS2.86	1.9	19		198	40 3/4	40 5/8	40 5/8	
42	33	Witco 1.48	3.6	11		613	41 1/4	40 1/2	41	− 1/2
14	9 5/8	WolvrW.24	1.9			120	12 1/2	12 1/4	12 1/2	+ 1/8
62 1/2	39 3/4	Wolwth 2	3.2	12		1728	u62 3/4	61 1/8	62 5/8	+ 1 1/2
88 3/4	56	Wolw pf2.20	2.5			4	88	87 1/4	88	+ 1 1/4
5 5/8	3	WrldAr				19	4 7/8	4 7/8	4 7/8	
95	57 1/2	Wrigly 1.80a	1.9	15		75	92 1/2	91	92 1/8	+ 1 3/4
4 1/4	2 5/8	Wurltzr				7	3	2 7/8	2 7/8	− 1/8
16	10 3/4	WyleLb .32	2.9	80		213	14 3/4	14 5/8	14 5/8	− 1/8
25 5/8	15	Wynns .60	3.8	12		20	15 1/2	15 1/8	15 1/2	+ 1/4
X Y Z										
64	41 1/2	Xerox 3	4.7	22		6785	u64 3/4	62	64 1/2	+ 1 7/8
58 3/4	48	Xerox pf5.45	9.7			2714	56 7/8	55 7/8	56	
34 3/4	26	ZaleCp 1.32	4.9	13		42	32 3/4	32 1/2	32 5/8	− 1/8
17	5 5/8	Zapata .12	2.1	40		613	5 3/4	5	5 1/2	5 5/8
66 1/8	37 7/8	Zayre s .48	.8	16		x404	61 5/8	60 1/4	60 7/8	+ 1/4
25	16 1/4	ZenithE			950	1112	19 1/4	18 5/8	19	+ 1/4
23 5/8	17 1/8	Zero s .36	1.7	11		42	21 1/2	21 1/8	21 1/2	+ 1/2
42 3/4	26 3/4	Zurnin 1.32	5.2	15		58	41 1/4	40 3/4	40 3/4	− 1/4

Sales figures are unofficial. Yearly highs and lows reflect the previous 52 weeks plus the current week, but not the latest trading day. Where a split or stock dividend amounting to 25 per cent or more has been paid, the year's high-low range and dividend are shown for the new stock only. Unless otherwise noted, rates of dividends are annual disbursements based on the latest declaration.

a-dividend also extra(s). b-annual rate of dividend plus stock dividend. c-liquidating dividend. cld-called. d-new yearly low. e-dividend declared or paid in preceding 12 months. g-dividend in Canadian funds, subject to 15% non-residence tax. i-dividend declared after split-up or stock dividend. j-dividend paid this year, omitted, deferred, or no action taken at latest dividend meeting. k-dividend declared or paid this year, an accumulative issue with dividends in arrears. n-new issue in the past 52 weeks. The high-low range begins with the start of trading. nd-next day delivery. P/E-price-earnings ratio. r-dividend declared or paid in preceding 12 months, plus stock dividend. s-stock split. Dividends begins with date of split. sls-sales. t-dividend paid in stock in preceding 12 months, estimated cash value on ex-dividend or ex-distribution date. u-new yearly high. v-trading halted. vi-in bankruptcy or receivership or being reorganised under the Bankruptcy Act, or securities assumed by such companies. wd-distributed. wi-when issued. ww-with warrants. x-ex-dividend or ex-rights. xdis-ex-distribution. xw-without warrants. y-ex-dividend and sales in full. yld-yield. z-sales in full.

AMEX COMPOSITE CLOSING PRICES

Closing prices January 31

Stock	Div.	P/E	Sls 100s	High	Low	Close	Chng
[illegible]							

OVER-THE-COUNTER

Nasdaq national market, closing prices, January 31

Stock	Sales (Hnds)	High	Low	Last	Chng
[illegible]					

Continued on Page 33

BASE LENDING RATES

ABN Bank	12½%
Allied Dunbar & Co.	12½%
Allied Irish Bank	12½%
American Express Bk.	12½%
Amro Bank	12½%
Henry Ansbacher	12½%
Associates Cap. Corp.	12½%
Banco de Bilbao	12½%
Bank Hapoalim	12½%
Bank Leumi (UK)	12½%
BCCI	12½%
Bank of Ireland	12½%
Bank of Cyprus	12½%
Bank of India	12½%
Bank of Scotland	12½%
Banque Belge Ltd	12½%
Barclays Bank	12½%
Beneficial Trust Ltd	13½%
Brit. Bank of Mid. East	12½%
■ Brown Shipley	12½%
CL Bank Nederland	12½%
Canada Permanent	12½%
Cayzer Ltd.	12½%
Cedar Holdings	13 %
■ Charterhouse Japhet	12½%
Citibank NA	12½%
Citibank Savings	¶12½%
City Merchants Bank	12½%
Clydesdale Bank	12½%
C. E. Coates & Co. Ltd.	13 %
Comm. Bk. N. East	12½%
Consolidated Credits	12½%
Continental Trust Ltd.	12½%
Co-operative Bank	*12½%
The Cyprus Popular Bk.	12½%
Duncan Lawrie	12½%
E. T. Trust	13 %
Exeter Trust Ltd.	13 %
Financial & Gen. Sec.	12½%
First Nat. Fin. Corp	13½%
First Nat. Sec. Ltd.	13½%
■ Robert Fleming & Co.	12½%
Robert Fraser & Ptrs.	13½%
Grindlays Bank	‡12½%
■ Guinness Mahon	12½%
■ Hambros Bank	12½%
Heritable & Gen. Trust	12½%
■ Hill Samuel	§12½%
C. Hoare & Co.	12½%
Hongkong & Shanghai	12½%
Johnson Matthey Bkrs.	12 %
Knowsley & Co. Ltd.	13 %
Lloyds Bank	12½%
Edward Manson & Co.	13½%
Meghraj & Sons Ltd.	12½%
Midland Bank	12½%
■ Morgan Grenfell	12½%
Mount Credit Corp Ltd.	12½%
National Bk. of Kuwait	12½%
National Girobank	12½%
National Westminster	12½%
Northern Bank Ltd.	12½%
Norwich Gen. Trust	12½%
People's Trust	13½%
PK Finans. Intl. (UK)	13½%
Provincial Trust Ltd.	13½%
R. Raphael & Sons	12½%
Roxburghe Guarantee	13 %
Royal Bank of Scotland	12½%
Royal Trust Co. Canada	12½%
Standard Chartered	12½%
TCB	12½%
Trustee Savings Bank	12½%
United Bank of Kuwait	12½%
United Mizrahi Bank	12½%
Westpac Banking Corp.	12½%
Whiteaway Laidlaw	13 %
Yorkshire Bank	12½%

■ Members of the Accepting Houses Committee.

* 7-day deposits 8.70%. 1-month 9.30%. Top Tier—£2,500+ at 3 months notice 12.08%. At call when £10,000+ remains deposited.

‡ Call deposits £1,000 and over 9% gross.

¶ Mortgage base rate.

§ Demand dep. 9¼%. Mortgage 12%.

CURRENCIES, MONEY and CAPITAL MARKETS

FOREIGN EXCHANGES

A quandary over interest rates

BY COLIN MILLHAM

Sterling moved back to the sidelines on the foreign exchanges last week, as the Government's problems over Westland were left to simmer, oil prices held reasonably steady, and the market awaited this week's Opec meeting and the latest UK money supply and bank lending figures. The pound consolidated around the $1.40 level, and above DM 3.35, while the exchange rate index rose to 74.6 from 74.3.

Attention moved back to the dollar and the general weakness of the US currency, which is posing potential problems not only for the Reagan Administration and the Federal Reserve Board but also for the governments and central banks in Japan and Europe.

As expected the Bank of Japan cut its discount rate by ½ per cent to 4½ per cent last week, but this had a minimal effect on the yen. German interest rates have not yet been cut, but a move may soon be forced on the Bundesbank for political as well as economic reasons.

At the recent Group of Five ministerial meeting in London there was pressure for a general reduction in interest rates among *the leading industrial nations.* Britain and France are not obvious candidates for rate cuts, but the market has not lost all hope that the Federal Reserve will cut its discount rate, while the economies in Japan and Germany seem strong enough to allow further interest rate reductions.

The latest US economic statistics appear to leave the US authorities in something of a quandry. The Federal Reserve must fear the dollar's weakness could turn into a crisis, and while the US budget deficit remains at very high levels there will be no wish to discourage foreign investors in US Government paper. Reaction to the fall in the value of the dollar and state of the economy may be gauged by the result of this week's programme of Treasury auctions.

But an equal problem is the US trade deficit, which rose to a record $17.4bn in December, and *faltering growth in the economy.* December leading indicators rose by 0.9 per cent, compared with market forecasts of around 1.5 per cent.

The major beneficiary from the imbalance in US trade remains Japan, which accounted for about one third of the US deficit.

In contrast the Japanese trade surplus in December was a record $7.05bn, and unless something is done to improve the situation the protectionist lobby in the US will grow increasingly vocal.

It is therefore a delicate balancing act deciding how soon and by how much the US discount rate can be cut, to stimulate the economy and reverse the trade gap, while preventing the dollar going into free fall.

The movement out of the dollar has also attracted funds into the D-mark, and there may also be a case for a cut in *German interest rates, but it is* generally felt the Bundesbank is more likely to reduce the rate on an expected securities repurchase agreement this week, rather than cut the discount or Lombard rates at Thursday's council meeting.

The French franc has been manipulated to the top of the EMS, but there is still a fear that the strength of the D-mark could cause political embarrass*ment* in Paris and Bonn *by forc*ing a realignment of the EMS, involving a devaluation of the franc, ahead of the French elections in March.

£ IN NEW YORK

Closing Rates	Jan. 31	Prev. close
£ Spot	$1.4115	$1.4210-1.4220
1 month	0.52-0.50pm	0.50-0.48pm
3 months	1.61-1.59pm	1.62-1.61pm
12 months	5.38-5.28pm	5.30-5.15pm

Forward premiums and discounts apply to the U.S. dollar

POUND SPOT—FORWARD AGAINST POUND

Jan 31	Day's spread	Close	One month	% p.a.	Three months	% p.a.
US	1.4080-1.4155	1.4125-1.4135	0.51-0.48c pm	4.20	1.62-1.58pm	4.54
Canada	2.0043-2.0213	2.0043-2.0079	0.28-0.18c pm	1.41	0.91-0.76pm	1.66
Nethlnd.	3.80-3.81¼	3.80¼-3.81¼	2½-1⅞c pm	6.20	6½-6¼pm	5.69
Belgium	68.85-69.18	69.00-69.10	7c pm-1dis	−0.52	17-3pm	0.58
Denmark	12.41½-12.46½	12.44-12.45	3¼-3ore pm	3.25	10½-10pm	3.33
Ireland	1.1088-1.1166	1.1142-1.1162	0.07-0.28p dis	−1.88	0.19-0.68dis	−1.56
W. Ger.	3.35¾-3.38	3.37-3.38	2½-2pf pm	7.33	6¾-6¼pm	7.85
Portugal	218½-221½	219½-221	270-630c dis	−24.66	590-1590dis	−19.82
Spain	211¼-212½	212-212½	10c pm-35dis	−0.71	10-125dis	−1.27
Italy	2293½-2304	2299-2300	16-19 lire dis	−9.13	41-46dis	−1.74
Norway	10.49½-10.54½	10.51½-10.52½	½-7ore dis	−0.57	1½-2dis	−0.62
France	10.28½-10.36¼	10.32½-10.33½	1½-2½c dis	−2.54	7½-10½dis	−3.48
Sweden	10.60½-10.64½	10.62½-10.63½	½ore pm-½dis	−0.14	1½-½pm	0.40
Japan	271½-273	272-273	1.40-1.28y pm	5.86	4.40-4.20pm	6.31
Austria	23.62-23.76	23.69-23.73	11⅞-10⅝gro pm	5.69	37½-33pm	5.92
Switz.	2.85-2.87	2.86-2.87	2-1⅝c pm	1.85	6½-5⅞pm	8.38

Belgian rate is for convertible francs. Financial franc 69.95-70.05. Six-month forward dollar 2.11-2.06c pm. 12-month 5.45-5.30c pm.

DOLLAR SPOT—FORWARD AGAINST DOLLAR

Jan 31	Day's spread	Close	One month	% p.a.	Three months	% p.a.
UK†	1.4080-1.4155	1.4125-1.4135	0.51-0.48c pm	4.20	1.62-1.58pm	4.54
Ireland†	1.2635-1.2745	1.2665-1.2675	0.75-0.86c pm	8.43	2.75-2.35pm	8.05
Canada	1.4205-1.4270	1.4240-1.4245	0.32-0.36c dis	−2.82	1.01-1.06dis	−2.91
Nethlnd.	2.6720-2.7020	2.6875-2.6985	0.47-0.44c pm	2.02	1.51-1.48pm	2.22
Belgium	48.58-48.95	48.80-48.90	13-17c dis	−3.68	48-53dis	−4.01
Denmark	8.75½-8.83	8.80½-8.81	¼ore pm-¼dis	−0.26	½pm-½dis	—
W. Ger.	2.3710-2.3930	2.3885-2.3895	0.85-0.80pf pm	2.14	2.03-1.98pm	3.36
Portugal	155¼-156¼	155¾-156¼	250-500c dis	−28.88	600-1300dis	−24.40
Spain	149.49-150.53	150.10-150.30	45-90c dis	−5.39	200-285dis	−6.45
Italy	1619-1631	1627-1628	16-21 lire dis	−14.74	52-56dis	−13.14
Norway	7.41¼-7.45¼	7.44½-7.44¾	6½-6¾ore dis	−10.27	9-9½dis	−5.00
France	7.27-7.33	7.31-7.31½	3¼-4½c dis	−6.76	15-16½dis	−8.81
Sweden	7.49½-7.52¼	7.52¼-7.52¾	2½-2¾ore dis	−3.88	7½-8dis	−4.12
Japan	192.10-193.10	192.70-192.80	0.27-0.24y pm	1.88	0.89-0.84pm	1.79
Austria	16.69-16.82	16.77-16.80	2½-1½gro pm	1.43	7-4½pm	1.37
Switz.	2.0110-2.0325	2.0265-2.0275	0.64-0.59c pm	3.64	1.95-1.90pm	3.80

† UK and Ireland are quoted in US currency. Forward premiums and discounts apply to the US dollar and not to the individual currency. Belgian rate is for convertible francs. Financial franc 49.50-49.60.

CURRENCY RATES

Jan. 31	Bank rate %	Special Drawing Rights	European Currency Unit
Sterling	—	0.786665	0.641267
U.S.$	7½	1.11111	0.907065
Canadian $	10.60	*	1.29305
Austria Sch.	4	18.6607	1.26885
Belgian Fr.	8¾	54.3076	44.3566
Danish Kr.	7	9.79479	8.00230
D'mark	4	2.65416	2.16748
Guilder	5	2.99644	2.44922
French Fr.	9½	N/A	6.64304
Lira	15½	1809.79	1477.41
Yen	4½	213.112	175.028
Norway Kr.	8	8.27473	9.15552
Span'h Pta.	—	181.121	156.471
Swedish Kr.	9½	8.34863	6.83491
Swiss Fr.	4	2.26897	1.83866
Greek Drch	20½	N/A	132.506
Irish Punt	—	N/A	0.118914

* C$/SDR rate for Jan 30: 1.57631.

CURRENCY MOVEMENTS

Jan. 31	Bank of England Index	Morgan Guaranty Change %
Sterling	74.6	−16.8
U.S. dollar	123.4	+13.1
Canadian dollar	78.4	−13.4
Austrian schilling	133.7	+8.1
Belgian franc	93.5	−8.7
Danish Kroner	84.1	−2.2
Deutsche mark	132.6	+15.1
Swiss franc	151.4	+12.4
Guilder	122.6	+1.2
French franc	70.9	−12.6
Lira	46.5	−18.6
Yen	183.0	+34.6

Morgan Guaranty changes: average 1980-1982=100. Bank of England index (base average 1975=100).

OTHER CURRENCIES

Jan 31	£	$
Arg'tina	1.1282-1.1305	0.8000-0.8012
Aus'alia	1.9755-1.9795	1.3990-1.4010
Brazil	17,043-17,140	12,088-12,145
Finland	7.6346-7.6546	5.3430-5.3460
Greece	204.40-208.65	144.60-141.50
H'kong	11.8158-11.0256	7.8050-7.8070
Iran	111.90*	65.60*
Kuwait	0.4020-0.4030	0.28729-0.28749
Lux'burg	60.60-60.60	48.80-48.90
Malay'sa	3.4780-3.4875	2.4645-2.4655
N'Z'land	2.6315-2.6415	1.8620-1.8675
Saudi Ar.	5.1106-5.1160	3.6507-3.6617
Sin'pore	3.0120-3.0200	2.1355-2.1375
S.Af.(Cm)	3.2160-3.2316	2.2780-2.2855
S.Af.(Fn)	4.0625-4.1830	2.8775-2.9630
U.A.E.	5.1415-5.1465	3.6135-3.6735

* Selling rate.

CURRENCY FUTURES

POUND—$ (FOREIGN EXCHANGE)

Spot	1-mth.	3-mth.	6-mth.	12-mth.
1.4130	1.4081	1.3970	1.3822	1.3593

IMM—STERLING $a per £

	Close	High	Low	Prev
	—TO FOLLOW LATER—			

LIFFE—STERLING £25,000 $ per £

	Close	High	Low	Prev
March	1.4022	1.4060	1.4030	1.4018
June	1.3870	—	—	1.3865
Sept	1.3725	—	—	1.3725

Estimated volume 62 (44)
Previous day's open int 2,108 (2,086)

LIFFE—DEUTSCHE MARKS DM 125,000 $ per DM

	Close	High	Low	Prev
March	0.4199	0.4222	0.4194	0.4223
June	0.4234	—	—	0.4258

Estimated volume 57 (56)
Previous day's open int 190 (222)

CHICAGO

U.S. TREASURY BONDS (CBT) 8% $100,000 32nds of 100%

	Close	High	Low	Prev
March	[illegible]	[illegible]	[illegible]	[illegible]
June	[illegible]	[illegible]	[illegible]	[illegible]
Sept	[illegible]	[illegible]	[illegible]	[illegible]
Dec	[illegible]	[illegible]	[illegible]	[illegible]
March	[illegible]	[illegible]	[illegible]	[illegible]
June	[illegible]	[illegible]	[illegible]	[illegible]
Sept	[illegible]	[illegible]	[illegible]	[illegible]
Dec	[illegible]	[illegible]	[illegible]	[illegible]
March	[illegible]	[illegible]	[illegible]	[illegible]
June	[illegible]	[illegible]	[illegible]	[illegible]

U.S. TREASURY BILLS (IMM) $1m points of 100%

	Close	High	Low	Prev
March	[illegible]	[illegible]	[illegible]	93.12
June	[illegible]	[illegible]	[illegible]	93.04
Sept	[illegible]	[illegible]	[illegible]	92.89
Dec	[illegible]	[illegible]	[illegible]	92.67
March	[illegible]	[illegible]	[illegible]	92.46
June	[illegible]	[illegible]	[illegible]	92.27
Sept	[illegible]	[illegible]	[illegible]	92.09
Dec	[illegible]	[illegible]	[illegible]	91.92

CERT. DEPOSIT (IMM) $1m points of 100%

	Close	High	Low	Prev
March	[illegible]	[illegible]	[illegible]	92.37
June	[illegible]	[illegible]	[illegible]	92.27
Sept	[illegible]	[illegible]	[illegible]	92.08
Dec	[illegible]	[illegible]	[illegible]	91.86

THREE-MONTH EURODOLLAR (IMM) $1m points of 100%

	Close	High	Low	Prev
March	[illegible]	[illegible]	[illegible]	92.08
June	[illegible]	[illegible]	[illegible]	91.96
Sept	[illegible]	[illegible]	[illegible]	91.78
Dec	[illegible]	[illegible]	[illegible]	91.56
March	[illegible]	[illegible]	[illegible]	91.30
June	[illegible]	[illegible]	[illegible]	91.08
Sept	[illegible]	[illegible]	[illegible]	90.84
Dec	[illegible]	[illegible]	[illegible]	90.64

IMM—STERLING $a per £

	Close	High	Low	Prev
March	[illegible]	[illegible]	[illegible]	1.4166
June	[illegible]	[illegible]	[illegible]	1.3950
Sept	[illegible]	[illegible]	[illegible]	1.3810
Dec	[illegible]	[illegible]	[illegible]	1.3700

LONDON

20-YEAR 12% NOTIONAL GILT £50,000 32nds of 100%

	Close	High	Low	Prev
March	[illegible]	[illegible]	[illegible]	108-22
June	[illegible]	[illegible]	[illegible]	108-12
Sept	[illegible]	[illegible]	[illegible]	108-11

Estimated volume 2,431 (3,918)
Previous day's open int 7,283 (7,233)
Basis quote (clean cash price of 13% Treasury 2004-08 less equivalent price of near futures contract) −12 to −8 (32nds)

10% NOTIONAL SHORT GILT £100,000 64ths of 100%

	Close	High	Low	Prev
March	[illegible]	[illegible]	[illegible]	95-09
June	[illegible]	[illegible]	[illegible]	95-39

Estimated volume 212 (198)
Previous day's open int 1,256 (1,257)

THREE-MONTH STERLING £500,000 points of 100%

	Close	High	Low	Prev
March	[illegible]	[illegible]	[illegible]	87.21
June	[illegible]	[illegible]	[illegible]	87.70
Sept	[illegible]	[illegible]	[illegible]	88.20
Dec	[illegible]	[illegible]	[illegible]	88.47
March	[illegible]	[illegible]	[illegible]	88.58
June	[illegible]	[illegible]	[illegible]	88.62

Estimated volume 2,328 (2,760)
Previous day's open int 11,577 (11,365)

THREE-MONTH EURODOLLAR $1m points of 100%

	Close	High	Low	Prev
March	92.08	92.19	92.08	92.08
June	92.00	92.01	91.92	92.01
Sept	91.84	91.85	91.77	91.84
Dec	91.63	91.62	91.60	91.62
March	91.40	—	—	91.39
June	91.18	—	—	91.17
Sept	90.95	—	—	90.94

Estimated volume 2,703 (5,297)
Previous day's open int 20,546 (20,862)

LIFFE—EURODOLLAR OPTIONS

$1m points of 100%

Strike price	Calls—Last March	June	Sept	Vol	Puts—Last March	June	Sept	Vol
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Previous day's open int: Calls 8,374. Puts 2,443.

LIFFE £/$ OPTIONS

£25,000 (cents per £1)

Strike price	Calls—Last Feb	Mar	April	June	Sept	Puts—Last Feb	Mar	April	June	Sept
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Estimated volume total: Calls 160. Puts 10.
Previous day's open interest: Calls 6,532. Puts 5,046.

LONDON SE £/$ OPTIONS

£12,500 (cents per £1)

Strike price	Calls—Last Feb	Mar	April	June	Sept	Puts—Last Feb	Mar	April	June	Sept
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Previous day's open int: Calls 4,600. Puts 6,787.
Volume: 595.

PHILADELPHIA SE £/$ OPTIONS

£12,500 (cents per £1)

Strike price	Calls—Last Feb	Mar	April	June	Sept	Puts—Last Feb	Mar	April	June	Sept
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.45	0.25	0.90	—	—	—	4.00	5.20	—	—	—
1.50	—	0.20	—	—	—	—	—	—	—	—

Previous day's open int: Calls 89,395. Puts 58,024.
Volume (mid-day): Calls 277. Puts 258.

FT-SE 100 INDEX £25 per full index point

	Close	High	Low	Prev
March	144.80	145.70	143.30	143.80
June	148.40	148.50	146.15	146.10

Estimated volume 283 (286)
Previous day's open int 2,156 (2,121)

US TREASURY BONDS 8% $100,000 32nds of 100%

	Close	High	Low	Prev
March	86-09	85-13	84-28	86-00
June	84-07	84-08	84-06	83-29

Estimated volume 3,836 (6,371)
Previous day's open int 3,672 (3,803)

EMS EUROPEAN CURRENCY UNIT RATES

	Ecu central rates	Currency amounts against Ecu January 31	% change from central rate	% change adjusted for divergence	Divergence limit %
Belgian Franc	44.8320	44.3566	+1.06	+1.18	±1.5425
Danish Krone	8.12857	8.00230	−1.55	+0.67	±1.6421
German D-mark	2.23840	2.16748	−3.11	−0.95	±1.1055
French Franc	6.85402	6.64304	−3.22	−1.00	±1.3654
Dutch Guilder	2.52208	2.44922	−2.98	−0.71	±1.5162
Irish Punt	0.724578	0.718214	−1.15	+1.07	±1.6673
Italian Lira	1520.60	1477.41	+2.84	−1.32	±4.0856

Changes are for Ecu, therefore positive change denotes a weak currency. Adjustment calculated by Financial Times.

FORWARD RATES AGAINST STERLING

	Spot	1-month	3-month	6-month	12-month
Dollar	1.4130	1.4081	1.3970	1.3822	1.3593
D-Mark	3.3750	3.3643	3.3080	3.2471	3.1398
French Franc	10.3325	10.3644	10.4230	10.4805	10.3677
Swiss Franc	2.8650	2.8463	2.8053	2.7489	2.6621
Japanese Yen	272.50	271.17	268.20	264.08	257.21

EXCHANGE CROSS RATES

Jan 31	£	$	DM	YEN	F Fr.	S Fr.	H Fl.	Lira	C $	B Fr.
£	1.	1.415	3.375	272.5	10.35	2.865	3.815	2300.	2.006	69.05
$	0.706	1.	2.389	192.8	7.315	2.027	2.698	1628.	1.420	48.87
DM	0.296	0.419	1.	80.74	3.061	0.849	1.130	681.5	0.594	20.46
YEN	3.670	5.186	12.39	1000.	37.92	10.61	13.99	8438.	7.362	253.4
F Fr.	0.968	1.368	3.266	263.7	10.	2.778	3.690	2226.	1.942	66.83
S Fr.	0.349	0.493	1.178	95.11	3.606	1.	1.331	802.6	0.700	24.10
H Fl.	0.262	0.371	0.886	71.48	2.710	0.751	1.	603.1	0.526	18.11
Lira	0.435	0.614	1.468	118.5	4.493	1.246	1.658	1000.	0.872	30.03
C $	0.498	0.704	1.682	135.8	5.151	1.428	1.900	1146.	1.	34.32
B Fr.	1.448	2.046	4.888	394.6	14.96	4.149	5.521	3330.	2.906	100.

Yen per 1,000: French Fr per 10: Lira per 1,000: Belg Fr per 100.

EURO-CURRENCY INTEREST RATES

Jan. 31	Short term	7 Days notice	1 Month	Three Months	Six Months	One Year
Sterling	12¼-12½	12¼-12½	12⅝-12⅞	12 13/16-12 15/16	12¾-12⅞	12⅝-12¾
U.S. Dollar	7⅞-8	7 15/16-8 1/16	7 15/16-8 1/16	7 15/16-8 1/16	8-8⅛	8⅛-8¼
Can Dollar	10½-11	10⅝-10⅞	10 11/16-10 15/16	10 11/16-10 15/16	10 7/16-10 11/16	10⅜-10⅝
D Guilder	5 11/16-5 13/16	5 11/16-5 13/16	5 11/16-5 13/16	5 11/16-5 13/16	5 11/16-5 13/16	5¾-5⅞
Sw. Franc	1½-1¾	3½-3¾	4 1/16-4 3/16	4 1/16-4 3/16	4 1/16-4 3/16	4⅛-4¼
Deutschmrk	4⅝-4¾	4 7/16-4 9/16	4 7/16-4 9/16	4 7/16-4 9/16	4 7/16-4 9/16	4⅝-4¾
Fr. Franc	9-12	11-13	15-15½	16¼-16¾	15¾-14¼	12¾-13¼
Italian Lira	14-18	16-19	17¼-19¾	18¼-19¼	16⅝-17⅛	15⅝-16⅝
B.Fr.(Fin)	9½-9⅞	9½-9¾	9¾-11	9¾-10	9½-9¾	9⅜-9⅝
B.Fr.(Con)	9½-9¾	11-12	11¾-12	11½-12	10¼-11	9½-10
Yen	8¼-8½	6¾-6⅞	6⅜-6½	6 7/16-6 9/16	6 7/16-6½	6-6⅛
D. Krone	8-8½	8½-9	8⅞-9⅜	9-9½	8⅞-9⅜	8¾-9¼
Asian $ (Sng)	7 15/16-8 1/16	7 15/16-8 1/16	7 15/16-8 1/16	7 15/16-8 1/16	8-8⅛	8 3/16-8 5/16

Long-term Eurodollars: two years 8⅜-8⅝ per cent; three years 8⅞-8⅝ per cent; four years 9¼-9⅜ per cent; five years 9⅜-9⅝ per cent nominal. Short-term rates are call for US Dollars and Japanese Yen; others, two days' notice.

MONEY MARKETS

Fears on Opec and bank lending

UK clearing banks base lending rate 12½ per cent since January 9

Interest rates fell on the London money market last week, as it became clear the Bank of England had managed to avoid a rise in clearing bank base rates. Three-month sterling interbank was around 12⅞ per cent on Friday, compared with 13⅛ per cent at the end of the previous week, as a slightly more confident mood was established. Confidence returned after the Prime Minister appeared to gain a victory over her critics, in the Commons emergency debate on the Westland leak on Monday, while the price of North Sea oil was more stable, within a range of $18 to $20 a barrel.

If the reaction of Mr Graeme Gilchrist, managing director of the Union Discount Company of London, was a good guide to market sentiment, it was generally felt that the Bank of England had handled well a difficult situation.

Speaking at the time of Union Discount's annual results Mr Gilchrist suggested that interest rates would rise to intolerable levels, if the authorities reacted to every hiccup in the oil price.

But he is not optimistic about the chances of holding rates at this level, and it is not difficult to see why. An Opec committee meets today, at a time when the oil producers' cartel appears to be trying to consolidate production levels of 18m barrels a day, against the present agreed total quota of 16m barrels.

Tomorrow the UK money supply and bank lending figures, for the month taking in the Christmas period, are published and are expected to show another rise in bank lending.

These two factors are likely to keep the foreign exchanges and money markets nervous, and put renewed upward pressure on interest rates.

NEW YORK

(4 pm)

Prime rate	9½
Broken loan rate	8
Fed funds	8
Fed funds at intervention	8

Treasury Bills & Bonds

One month	6.33
Two month	7.08
Three month	7.20
Six month	7.41
One year	7.45
Two year	7.97
Three year	8.18
Four year	8.35
Five year	8.61
Seven year	8.87
10 year	9.08
30 year	9.34

BANK OF ENGLAND TREASURY BILL TENDER

	Jan. 31	Jan. 24		Jan. 31	Jan. 24
Bills on offer	£100m	—	Top Accepted rate of discount	12.21633%	—
Total of applications	£675m	—	Average rate of discount	12.0967%	—
Total allocated	£100m	—	Average yield	12.47%	—
Minimum accepted bid	£96.97	—	Amount on offer at next tender	£100m	£100m
Allotment at minimum level	46%	—			

FT LONDON INTERBANK FIXING

(11.00 a.m. Jan. 31)

Three months U.S. dollars		Six months U.S. dollars	
bid 7 15/16	offer 8 1/16	bid 8	offer 8 1/8

The fixing rates are the arithmetic means, rounded to the nearest one-sixteenth, of the bid and offered rates for $10m quoted by the market to five reference banks at 11 a.m. each working day. The banks are National Westminster Bank, Bank of Tokyo, Deutsche Bank, Banque Nationale de Paris and Morgan Guaranty Trust.

WEEKLY CHANGE IN WORLD INTEREST RATES

	Jan. 31	change		Jan. 31	change
LONDON			**NEW YORK**		
Base rates	12½	Unch'd	Prime rates	9½	Unch'd
7 day interbank	12 7/16	+1 1/16	Federal funds	8	+¼
3mth interbank	12⅞	−½	3 Mth. Treasury Bills	7.16	+0.01
Treasury Bill Tender	12.0967	—	6 Mth. Treasury Bills	7.39	−0.05
Band 1 Bills	12⅛	Unch'd	3 Mth. D D	7.75	−0.15
Band 2 Bills	12 1/16	Unch'd	**FRANKFURT**		
Band 3 Bills	12¼	Unch'd	Lombard	5.5	Unch'd
Band 4 Bills	12 1/16	Unch'd	One Mth. Interbank	4.575	−0.1
3 Mth. Treasury Bills	12¼	−⅛	Three month	4.60	−0.025
1 Mth. Bank Bills	12 7/16	−½	**PARIS**		
3 Mth. Bank Bills	12 7/16	−⅛	Intervention Rate	8¾	Unch'd
TOKYO			One Mth. Interbank	8 11/16	+1/16
One month Bills	6.03125	−0.5675	Three month	8 13/16	−⅛
Three month Bills	6.09375	−1.0	**MILAN**		
BRUSSELS			One month	16 1/16	+½
One month	9 11/16	+⅛	Three month	15 13/16	+⅛
Three month	9¾	Unch'd	**DUBLIN**		
AMSTERDAM			One month	—	—
One month	5⅝	+1/16	Three month	—	—
Three month	5¾	Unch'd			

London—band 1 bills mature in up to 14 days, band 2 bills 15 to 33 days, band 3 bills 34 to 63 days and band 4 bills 64 to 91 days. Rates quoted represent Bank of England buying or selling rates with the money market. In other centres rates are generally deposit rates in the domestic money market and their respective changes during the week.

MONEY RATES

Jan. 31	Ov'r-nig't	One Month	Two Months	Three Months	Six Months	Lombard In'v'ntion
Frankfurt	4.25-4.35	4.50-4.65	4.50-4.65	4.55-4.65	4.55-4.70	5.5
Paris	9	8⅞-9	8⅞-9	8⅞-9	8 15/16-9 1/16	8¾
Zurich	1-2	3⅞-4⅛	—	3⅞-4⅛	—	—
Amsterdam	5 11/16-5⅞	5¾-5 11/16	—	5 11/16-5 13/16	5 11/16-5 13/16	—
Tokyo	6.03125	6.03125	—	6.09375	—	—
Milan	15⅝-16	15¼-16⅛	—	15½-15⅞	—	—
Brussels	8.50	9¾-9⅞	—	9 11/16-9 13/16	—	—
Dublin	—	—	—	—	—	—

LONDON MONEY RATES

Jan. 30	Over night	7 days notice	Month	Three Months	Six Months	One Year
Interbank	12-15	12⅛-12½	12⅝-12¾	12¾-12 15/16	12 11/16-12 13/16	12 7/16-12¾
Sterling CDs	—	—	12 11/16-12 9/16	12¾-12⅝	12 11/16-12 9/16	12 9/16-12 7/16
Local Authority Deps	12½-12¾	12⅛-12½	12¾	12⅞	12¾	12⅝
Local Authority Bonds	—	—	13⅛	13½	13⅛	13⅛
Discount Mkt Depos	10-12¾	11-11¾	12⅝	12½	—	—
Company Depos	12-12¼	12⅝-12¾	12¾	12⅞	12⅞	12⅝
Finance Hse Depos	—	—	12¾	12¾	12¾	12⅝
Treasury Bills (Buy)	—	—	12⅝	12¼	—	—
Bank Bills (Buy)	—	—	12 13/16	12 9/16-12 7/16	12¼	—
Fine Trade Bills (Buy)	—	—	13⅛	12⅞	12¾	—
Dollar CDs	—	—	7.60-7.85	7.85-7.90	7.90-7.95	8.10-8.15
SDR Linked Depos	—	—	8⅛-8 13/16	8 11/16-8 13/16	8¼-8½	8½-8⅝
ECU Depos	—	—	10⅝-10⅞	10⅛-10⅜	9¾-10	9½-9¾

Treasury Bills (sell): one-month 12⅛ per cent; three months 12⅛ per cent. Bank Bills (sell): one-month 12 13/16 per cent; three months 12 13/16-12 7/16 per cent. Treasury Bills: Average tender rate at discount 12.0967 *per cent.* ECGD Fixed *Finance Scheme IV reference date December 4 to January 7 (inclusive):* 11.939 per cent. Local authority and Finance Houses seven days' notice, others seven days' fixed. Finance Houses Base Rate 12½ per cent from February 1 1986. Bank Tax Deposits (Series 6) Deposits £100,000 and over held under one month 12 per cent; one-three months 12⅛ per cent; three-six months 12⅛ per cent; six-nine months 12⅛ per cent; nine-12 months 12⅛ per cent. Under £100,000 11⅝ per cent from January 14. Deposits held under Series 5 11⅝ per cent. Deposits withdrawn for cash 7½ per cent.